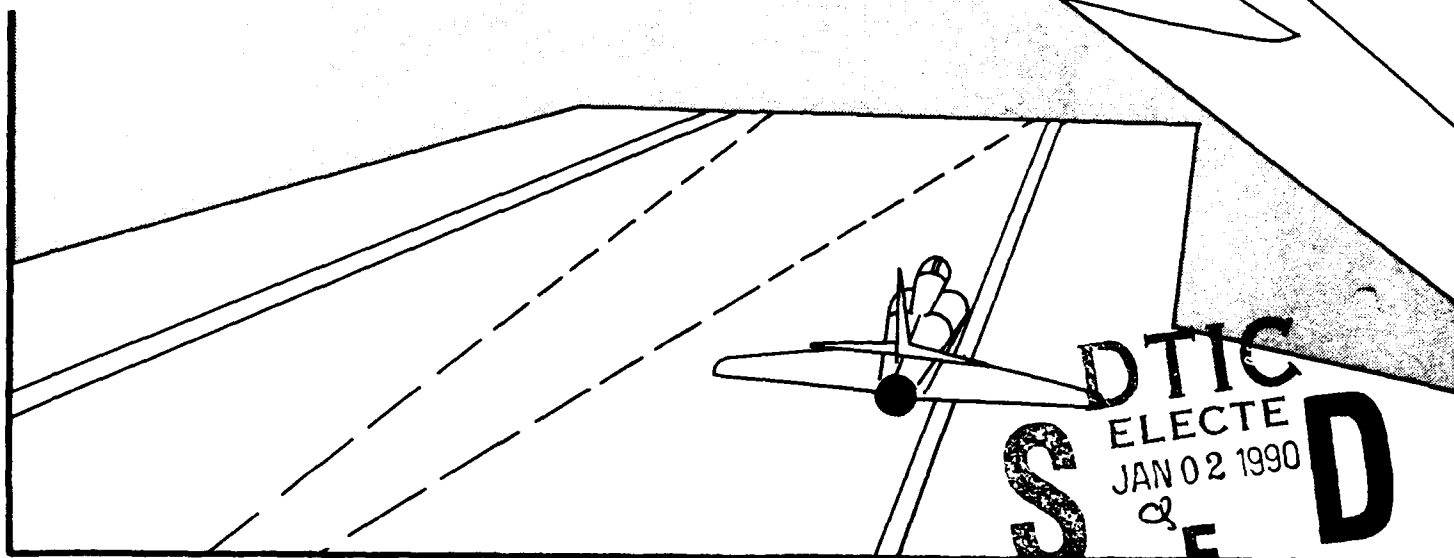


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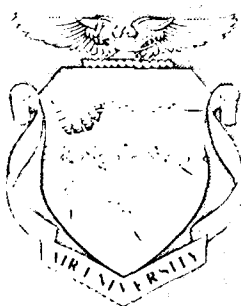


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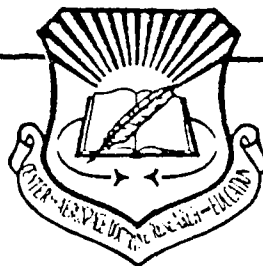
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Research Report No. AU-ARI-84-9

THE USE OF AIR POWER IN JOINT MARITIME OPERATIONS

by

Thomas Bradley  
Captain, USAF  
Research Fellow  
Airpower Research Institute

Air University Press  
Maxwell Air Force Base, Alabama 36112

August 1985

# DISCLAIMER

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## FOREWORD

Maritime operations are clearly becoming more of a concern to the American military establishment. With most of the earth's surface covered by water, it is obvious that maritime operations are critically important to our ability to defend our vital interests throughout the world.

Air power, of course, plays a big role in successful maritime operations. This fact is well recognized in Air Force doctrinal manuals and in the assignments of important maritime missions to the Air Force. However, the integration of Air Force resources and efforts with those of Naval and Marine forces remains a difficult problem. Captain Bradley's study addresses this issue and offers several recommendations worthy of serious consideration.

Captain Bradley's study is thought provoking and at times controversial. Whether we agree with his recommendations or not, he forces us to seriously consider a vitally important subject that demands increased attention.



DONALD D. STEVENS  
Colonel, USAF  
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Center for Aerospace Doctrine,  
Research, and Education



## THE AUTHOR

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## PREFACE

The idea of thoroughly integrated action in all phases of US military planning and operations is one whose time has come. One need look no farther than the daily newspapers and the open military-oriented literature to see that the spirit of cooperation which exists among the military services today is stronger than at any other time since the end of the Second World War. There are still disagreements over interpretations of service roles and missions and over combat effectiveness of various tactics and pieces of equipment, but the services have come to see great value in combining their might in proper ways to complement each other's strengths.

In the period since World War II, debate among the services has often been vituperative and unproductive. At times, both the Air Force and the Marine Corps have had cause to worry over their continued existence as separate services; the Navy has been questioned relentlessly on the necessity for carrier-based aviation. These arguments have abated somewhat in the early to middle 1980s for a variety of reasons. One of the major themes of this paper is that now, during a period of relative calm in the debates (and before a major war forces hasty decisions), is the time to establish a formal mechanism for writing joint doctrines and procedures for the use of air power in joint maritime operations. The lack of joint doctrine (or even of Air Force doctrine) for maritime operations is one of the major reasons for confusion, aimless drifting, and other problems as the Air Force expands its efforts in support of US maritime operations. The services should strike while the iron is hot.

Chapter 1 discusses the need for joint doctrine for two reasons: first, the US military history indicates that joint doctrines, concepts, and operations are more effective than mere coordinated ones; and second, documents published by secretaries of defense since 1948 have directed the Joint Chiefs of Staff (JCS) to establish those doctrines.

Chapter 2 discusses the collateral nature of US Air Force maritime operations. Confusion exists within the Air Force, particularly at levels lower than the Air Staff, over the meaning of "collateral functions" and over the restrictions placed on a service in its performance of them. This chapter discusses what collateral functions are, how the various services' primary and collateral functions intertwine, and precisely how a service (specifically the Air Force) may prepare to perform its collateral functions.

Chapter 3 describes the Soviet and US navies. The changing balance of power between the two navies provides some of the impetus to renewed US Air Force interest in maritime operations.

Chapter 4 provides an overview of operational concepts for the use of air power in joint maritime operations. The US Navy has conducted air missions in support of surface and subsurface maritime operations continuously since the 1920s and of the Air Force only sporadically since then (but to good effect in World War II). There is much for the Air Force to learn from the Navy in the accomplishment of these missions, so some concepts from both services are laid out here.

Chapter 5 describes command arrangements that have been used in the recent history of joint, unified, and combined operations. It also

describes service doctrinal beliefs on command and control and discusses problems that have arisen from disagreement.

Chapter 6 provides several recommendations for improving Air Force participation in maritime operations. This maritime mission is not new, but it is different from most land-oriented missions and is fairly unfamiliar to many Air Force aviators and planners.

Many of the problems that people observe in Air Force support of maritime operations stem from a lack of joint doctrine and from misconceptions of the importance to be placed on collateral functions. This paper provides a historical perspective on doctrine and command of air forces in joint operations that may be of value to operational line aviators and to staff officers on the Air Staff and at Air Force major commands. That perspective and an overview of what has happened recently in Air Force-Navy maritime operations may be instructive. This report is not all encompassing. It does not explain tactics in any detail, nor does it propose a specific joint doctrine. It does not keep up with the daily actions currently being worked on at different staff levels in maritime operations. The report does document some of the trends in Air Force thinking and action in recent years and includes several recommendations. Some of them may have been implemented or rejected prior to publication of this paper.

Many people in the Air Force have a more intimate knowledge of a part of the Air Force role in maritime operations than is presented in this report. But this report can serve a useful purpose by telling people more of the past, current, and potential roles of the Air Force and Navy in this critical maritime function.

The author is indebted to the staff of the Airpower Research Institute, in particular Dr Paul H. B. Godwin, Ms Agnes Wallner, and Ms Dot McCluskie, for their guidance in the preparation of this paper. The staffs of the Air Command and Staff College and the Air University Library also offered their time and their experience and aided this research tremendously. I thank them all. My appreciation is also extended to those at Headquarters Pacific Air Forces who had the confidence in choosing me as a research fellow and in giving me the freedom to research and write this paper. I also thank my wife, Sandra, without whose support and encouragement this research would not have been possible.

A handwritten signature in cursive script that reads "Thomas Bradley". The signature is written in dark ink and is positioned above the printed name and title.

THOMAS BRADLEY  
Captain, USAF  
Research Fellow  
Airpower Research Institute

## CHAPTER 1

### THE NEED FOR JOINT DOCTRINE

Doctrine is more than words on paper. At best, it is the result of hard thinking, long discussions, and bloody testing. Theoretically national purpose plays no part in the development of doctrine. It does, however, play a major role in how that doctrine is put to use. Joint Chiefs of Staff (JCS) Publication 1, Department of Defense Dictionary of Military and Associated Terms, defines doctrine as "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application."<sup>1</sup> National goals and objectives are not written into doctrine, though doctrine should play a major part in the development of military forces to be employed for national purposes. However, doctrine is only one element that is considered in developing those forces.

Doctrine is the intellectual basis for force development, but the application of doctrine in the force-development stage involves politics, which Otto von Bismark called "the art of the possible." Not all the militarily best proposals are possible. Doctrine does not and cannot govern force structures directly. Some major elements that constrain doctrine in the development of forces are the industrial capacity of a nation; the national goals, objectives, and culture; the state of the economy; domestic politics; international treaties and agreements; the perceived threat of enemy forces; and the nation's sense of morality.

Once a nation's force structure is developed, doctrine serves other purposes beside guiding further development. It is a guide for lower-level concepts, procedures, and war plans. Doctrine ensures that those procedures and plans are based on realistic capabilities instead of on perceived but improbable ones. The forces that are available in a situation such as a war or a show of force are the ones that are used, often without regard to doctrinal correctness, but rather in consideration of the capabilities actually possessed. That fact should not be used as a reason for perverting the doctrine itself by inflating the statement of force potential. Doctrines and strategies are not the same by any means.

Another, perhaps simpler, definition of doctrine is "what is officially believed and taught about the best way to conduct military affairs."<sup>2</sup> Doctrine deals with the perceived best ways a nation could go to war, using only military considerations. Strategy describes the necessary, possible, and actual way a nation goes to war, driven in part by the military forces available.

Before World War II the US Army and US Navy generally viewed US military and naval strategies as separate plans for conducting war. The national objectives for both forces were the same, but the strategies for achieving those objectives were developed and executed separately within each service. The Army planned for and fought wars on land, while the Navy planned for and fought wars at sea. Although strategies and plans of the services were discussed among the chief of staff of the Army, the chief of naval operations, the secretary of war, and the secretary of the Navy, there was no officer in the government below the president who had authority over both services. The Joint Planning

Committee prepared such plans as the Rainbow series in the interwar period and submitted them to the Joint (Army-Navy) Board for review, but approval and implementation came from the secretaries of war and the navy through their individual service structures.

Any discussion of doctrinal matters, one of the bases of military strategies, was generally kept within service boundaries. For this reason, officers of the US Army and US Navy held vastly different ideas on the capabilities of the other service. This mutual lack of understanding of the principles by which the services were guided in their plans and operations was one of the stumbling blocks in the formation of unified command structures. In the prewar years, many Army and Navy officers agreed to the idea of unified command at times, but they realized the greater difficulty of actually forming those commands.<sup>3</sup> No such command existed in the US military before World War II.

During World War II, the same biases resulted in the formation of two separate joint commands in the Pacific. Neither service trusted senior officers from the other service to have sufficient grasp of the strategic operational and logistical problems of a joint campaign to correctly and effectively command all combat and support units from all services in the theater.

This fear has continued in the period since then, and it is soundly based. Most air officers have no idea how to use an army except as an army of occupation after air power has won the war. Most army officers have little knowledge of the use of a navy except for troop transport, naval gunfire support, amphibious operations, and resupply. The most effective means of achieving military objectives in war involves



integrated, unified military power. This belief has led to a gradual unification of the services, beginning early in World War II. Military commands, strategies, and plans are now unified in the United States to a degree never achieved before. However, doctrine in general is usually kept within single-service lines, and many efforts to formulate joint doctrine have not materialized.

Each service publishes its own doctrines for unilateral service operations, under the overall command of the unified or specified commanders, after writing and reviewing those doctrines within its own structure. For several specific joint mission areas, Department of Defense (DOD) Directive 5100.1, Functions of the Department of Defense and its Major Components (hereinafter called the Functions Paper), directs each service to develop doctrines in coordination with the other services. For example, the US Army is primarily responsible for "doctrines, procedures, and equipment employed by Army and Marine Forces in airborne operations,"<sup>4</sup> and these elements are coordinated with the other services involved in airborne operations. First issued in 1948, the Functions Paper was reissued in 1954, 1958, and 1980 with numerous revisions in between. It directs the Joint Chiefs of Staff (JCS) to "establish doctrines for unified operations and training. . . ." <sup>5</sup>

In JCS Publication 2, Unified Action Armed Forces (UNAAF), the JCS acknowledges its role in publishing doctrines for unified operations and training, and gives each service the responsibility for developing single service doctrines. The JCS also repeats and expands the guidance in the Functions Paper on joint doctrine development.<sup>6</sup> Col Leo M. Kosiba, US Army, has recently traced the rather passive role that the JCS

has played in the development of joint doctrine and makes the point that "joint doctrinal innovation suffers from what can only be termed 'nonassertive' management."<sup>7</sup> Dr Robert F. Futrell has further documented the slow progress of the services in writing joint doctrine after World War II. Interservice disputes were so divisive after the war that it took until September 1951 to produce Joint Action Armed Forces. The joint manual, which was distributed in the Air Force then as AFM 1-1, is the forerunner of the current JCS Publication 2. Other efforts of the services to coordinate joint doctrine were not as successful.<sup>8</sup> The first US Air Force statement of basic doctrine was not published until April 1953, after almost six years of effort.

With only limited success in establishing joint doctrine, it is not surprising that there is no basic document establishing the principles of joint operations for the US Air Force and US Navy in maritime air operations. It is also evident, however, that the present joint participation of the Navy and Air Force in maritime air operations has reached the point where the publication of joint doctrine is necessary. In May 1978 Gen William J. Evans, then commander in chief, US Air Forces in Europe, wrote that "the most important aspect of interoperability is the attitude of the people involved."<sup>9</sup> These attitudes are shaped, in part, by the information available to people on how their mission should be performed: in other words, by doctrine. Without a joint doctrine for maritime operations, the Air Force and Navy do not have what JCS Publication 1 calls the "fundamental principles" to guide their actions in support of common objectives.

In September 1982 the chief of naval operations, Adm James D. Watkins, and the chief of staff of the Air Force, Gen Charles A.

Gabriel, signed a memorandum designed to "accelerate ongoing USN/USAF joint efforts to enhance the effectiveness of maritime operations. . . ." The most basic reason for the agreement is that the "combined assets of the Navy and Marine Corps are insufficient to meet the threat in all areas."<sup>10</sup> This situation is not likely to change radically in the next few years and probably not in the next several decades. Maritime missions are those that the Air Force has performed at times and will continue to perform for a long time. A joint doctrine has not been drafted to cover Air Force-wide and Navy-wide air efforts in maritime operations, nor has the Air Force written a doctrine for its own use in maritime operations. Air Force operations have run well ahead of doctrine in maritime functions. Gen Henry H. Arnold is quoted in AFM 1-1, Functions and Basic Doctrine of the United States Air Force, as having said in 1945 that "any Air Force which does not keep its doctrines ahead of its equipment, and its vision far into the future, can only delude the nation into a false sense of security."<sup>11</sup>

Since 1978, the Air Force has demonstrated an intention to write a doctrinal manual entitled AFM 2-8 (now redesignated AFM 2-XG), Maritime Operations, which was conceived at that time as a joint manual. In addition to being a clear statement of the overall Air Force maritime mission, the manual would replace AFM 2-13, Sea Surveillance Operations (1975), and AFM 2-53, Doctrine for Amphibious Operations (1967).<sup>12</sup>

Work is in progress on the new maritime operations doctrine. Whether the work will result in a joint manual is open to question, given the history of developing joint doctrine under the current organizational arrangement.

World War II history may demonstrate something about the lack of doctrine. One problem that received some attention prior to America's entry into World War II, and a great deal of attention afterward, was that of merchant vessel losses to German submarines in the Atlantic.

In World War I the use of merchant convoys with naval escorts and some air cover had proven to be successful in reducing Allied shipping losses from German submarine attack. Attacks by Allied submarines were also effective in killing the U-boats and in reducing morale in the German submarine service. The results of mining operations on the U-boats were mixed.<sup>13</sup>

Neither the United States nor Great Britain had an overall plan for reducing the submarine threat at the start of World War II. In the spring of 1941, the British asked the United States for help with escort and cover of trans-Atlantic convoys.<sup>14</sup> Merchant ships were being sunk at an alarming rate with no evident relief except in British coastal waters. In November 1941 the chief of naval operations requested that the Army Air Forces (AAF) increase the number of its patrol aircraft in Newfoundland. The Army Air Forces eventually took on the bulk of the antisubmarine patrol off the East Coast of the United States due to insufficient naval aircraft and ships for the mission. It was a job for which the AAF crews were inadequately trained, and the aircraft were too few and ill-equipped.<sup>15</sup> The Civil Air Patrol (CAP) also participated in the coastal patrol effort with some of its aircraft, such as Piper Cubs, even armed with 50-pound bombs.<sup>16</sup> Although AAF bombing was inaccurate, the patrols themselves and an effective coastal convoy system forced the U-boats to move the bulk of their antishipping

operations farther east and south into the Atlantic and Caribbean as time went on.

On the other side of the Atlantic, discussions continued on the best method of countering the threat. In October 1942 the Eighth Air Force began bombing the five German submarine pens in the Bay of Biscay on the west coast of France. The campaign, which lasted until June 1943, was later found "to have had no appreciable effect on the U-boat operations."<sup>17</sup> A lack of bombers, inaccurate bombing methods, inadequate bombsights, high bomber loss rates, and well-protected, hard shelters were some of the problems encountered. The commander of the Eighth Air Force, Gen Carl Spaatz, the US Navy, the British Air Ministry, the Royal Air Force (RAF) Bomber Command, and the USAAF Headquarters expressed doubts, but any negative considerations of the effectiveness of the operation were lost in enthusiasm over the possibilities.<sup>18</sup>

Other major priorities of the Eighth Air Force included attacks on German air bases and transportation facilities in the occupied countries, particularly France. Most attacks on those targets, while damaging some enemy equipment, were ineffective in reducing the Germans' ability to operate. The demands of preparing a force for Torch, the Anglo-American invasion of North Africa, lessened the number of bombers available for attacks, as did logistic and weather problems.<sup>19</sup> Even so, the Eighth Air Force diverted its major efforts from attacks against German lines of communication in France to attacks on the submarine bases, a mission in which all major Allied air agencies had little confidence.

Possibly even worse than the diversion of effort from an eventually more productive use was the loss of time in establishing the convoy system, which would have saved many ships and lives if implemented earlier. The reluctance to ask and answer the hard questions before the war resulted in great inefficiencies in the early part of that war. The changes in mission and in organizational structure could have been avoided if sufficient thought had been given to the potential submarine threat before the war. This does not suggest that senior Army, Navy, and AAF officers should have foreseen the value of escorted convoys before World War II; the point is that they did not analyze the problem in sufficient depth to ensure trans-Atlantic shipping would get across. The highest authorities must discuss warfare tasks and threats thoroughly before the next war. Whether that war is short--as some believe the next global conflict will be--or relatively long, the doctrines and procedures for conducting that war must be established beforehand. The United States cannot afford delays and confusion in any area, including maritime air operations, that it suffered in World War II. Confusion, delay, and doubt will result in the loss of men and machines with no time available to train replacements or to build new machines.

## NOTES

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19. Ibid., 254-63.





## CHAPTER 2

### THE COLLATERAL NATURE OF US AIR FORCE MARITIME OPERATIONS

One of the major problems that confront the Air Force as it seeks to determine its proper level of commitment to maritime operations is confusion over the meaning of collateral functions. Maritime operations are collateral functions of the Air Force, as first described by Secretary of Defense James V. Forrestal in 1948. The wording of that description and of the basic restriction placed on a service in performing collateral functions have remained virtually the same ever since; the restriction affects military operations only indirectly.

Each of the services has primary and collateral functions. Primary functions are those which a service performs in its own element and in which it has the primary interest. Collateral functions are generally the functions performed in an area where another service has the primary interest. A listing of collateral functions was necessary in 1948 because, as weapons became more powerful, as they gained longer ranges, and as the nature of warfare changed, the boundary lines between land war and sea war became blurred. Secretary Forrestal wanted to ensure that redundant forces were not created. If the Navy, with the primary job of "combat incident to operations at sea,"<sup>1</sup> could also help in the land and air campaigns without adding forces to do it, that would be allowed; it could not, however, use those collateral functions as the sole justification for adding forces.

Over three years of task force studies, executive branch discussions, and congressional committee hearings, floor debates, and conferences had gone into the program for unification of the services

before President Harry Truman signed the National Security Act of 1947 into law on 26 July 1947. For the present, it is not necessary to recount the changes in the proposals made by the many actors in the great national debate. As written, the law satisfied several, but not all, of the major concerns of a large number of Navy and Marine Corps officers. While the law did create a separate Air Force, it also gave legal protection to the existence, organization, and primary missions of naval aviation and of the Marine Corps, including Marine aviation.<sup>2</sup> On the same date, President Truman issued Executive Order 9877, Functions of the Armed Forces, in which he expanded on the functions statements in the law. The order delineated rather broad functions compared with later statements, but the debate over roles and missions became more heated as the statements became more specific.

Differences between the law and the executive order led to differing interpretations over what were actually the roles and missions of the services. Secretary Forrestal sent the service secretaries and the Joint Chiefs of Staff (JCS) a proposed revision to the executive order in January 1948. When the service chiefs could not agree on the wording, Secretary Forrestal met with the JCS at Key West, Florida, 11-14 March 1948.

Following the Key West conference and later discussions in Washington, sufficient agreement existed among the service chiefs that President Truman revoked Executive Order 9877 and directed Secretary Forrestal to issue the Functions Paper. The Functions Paper went into much greater detail than the executive order had in defining and describing the functions of the services. It stated five basic principles for the operations of the National Military Establishment.

It also listed four general and 13 specific functions in a section titled "Common Functions of the Armed Forces." For the first time, it listed the functions of the Joint Chiefs of Staff.

The functions of the individual services, however, were of paramount interest to the service chiefs. Primary and collateral functions were assigned to each service. The "Principles" section of the Functions Paper stated:

3. It is essential that there be full utilization and exploitation of the weapons, techniques, and intrinsic capabilities of each of the Services in any military situation where this will contribute effectively to the attainment of over-all military objectives. In effecting this, collateral as well as primary functions will be assigned. It is recognized that assignment of collateral functions may establish further justification for stated force requirements, but such assignment shall not be used as the basis for establishing additional force requirements.<sup>3</sup>

Simply stated, Secretary Forrestal intended that the services not use collateral functions as the sole argument for creating new forces. Once a force was in existence, though, it could be used to perform any function in which it could "contribute effectively" to the accomplishment of a mission.

This statement in the original Functions Paper preceded the listing of collateral functions of each of the services:

B. Collateral Functions. The forces developed and trained to perform the primary functions set forth above shall be employed to support and supplement the other Services in carrying out their primary functions, where and whenever such participation will result in increased effectiveness and will contribute to the accomplishment of the over-all military objectives. The Joint Chiefs of Staff member having primary responsibility for a function shall be the agent of the Joint Chiefs of Staff to present to that body the requirements for and plans for the employment of all forces to carry out the function. He shall also be responsible for presenting to the

Joint Chiefs of Staff for final decision any disagreement within the field of his primary responsibility which has not been resolved. This shall not be construed to prevent any member of the Joint Chiefs of Staff from presenting unilaterally any issue of disagreement with another Service. Certain specific collateral functions of the [service] are listed below.<sup>4</sup>

It should be noted here that the individual chiefs no longer act as agents of the JCS in directing combat forces, as they did in 1948.

The Air Force has had the same three collateral functions since 1948:

1. To interdict enemy sea power through air operations.
2. To conduct antisubmarine warfare and to protect shipping.
3. To conduct aerial minelaying operations.<sup>5</sup>

The JCS on 26 March 1948 prepared a memorandum as a guide for interpreting the Key West agreements. After disagreements among the JCS were aired, Secretary Forrestal approved the revised memorandum on 1 July. The memorandum is printed as appendix A.

From his frequent conversations with the service secretaries and military chiefs, Secretary Forrestal believed that there were still areas of disagreement over roles and missions. On 9 August 1948, he called on General Carl A. Spaatz, the recently retired Air Force chief of staff, and Admiral John H. Towers, an eminent retired naval aviator (naval aviator no. 3) who had been commander in chief, Pacific, and commander in chief, Pacific Fleet, asking them to point out the areas of agreement and disagreement between the Air Force and Navy on their missions, particularly regarding strategic air operations and control of atomic weapons. After General Spaatz and Admiral Towers reported their findings, Secretary Forrestal met with the service secretaries and the JCS at the Naval War College, Newport, Rhode Island, 20-22 August.<sup>6</sup> The decision made there on primary missions is also instructive in showing

the secretary's and JCS's intent for execution of collateral functions. The memorandum of the Newport conference, prepared by Secretary Forrestal's assistant, states in part,

2. Clarification of the Term "Primary Mission" in the Functions Paper

a. The Joint Chiefs of Staff recommended, and the Secretary of Defense approved the issuance of the following supplement to his paper on "Functions of the Armed Forces and the Joint Chiefs of Staff" which was attached to his memorandum to the Joint Chiefs of Staff of 21 April 1948:

"Subject to control by higher authority, each service, in the fields of its primary missions, must have exclusive responsibility for planning and programming and the necessary authority. In the execution of any mission of the armed services, all available resources must be used to the maximum overall effectiveness. For this reason, the exclusive responsibility and authority in a given field do not imply preclusive participation. In providing for our armed forces, including the preparation of the annual budget and the preparation of mobilization plans, it is essential to avoid duplication and the wastage of resources therefrom. For this reason the service having the primary function must determine the requirements, but in determining those requirements must take into account the contributions which may be made by forces from other services."

b. It was agreed that the effectiveness of the foregoing decision would depend upon (1) the spirit in which it was carried out; (2) general acceptance of the view that the decision was not in any wise a victory or defeat for any service, and (3) mutual acceptance on the part of all concerned of the obligation to work amicably to settle any differences arising under the decision, and to anticipate, and resolve in advance, any prospective differences. To this end, it was agreed that the Secretary of Defense, together with the three service Chiefs of Staff, should assemble the top members of their staffs at a meeting on Tuesday, 24 August for the purpose of describing and explaining the foregoing decision. It was also suggested that an effort should be made to secure newspaper cooperation in making clear the precise consequences of the decision, putting it up to the various journalist protagonists that this program could only work with their cooperation.<sup>7</sup>

Walter Millis, editor of The Forrestal Diaries, wrote in 1951:

This settled the immediate Navy-Air Force quarrel, which was not again to become acute during Forrestal's tenure of office. But the delicacy of the balance achieved suggests why his successor's decision to cancel the Navy's big 'atomic' aircraft carrier had so violently unsettling an effect.<sup>8</sup>

That balance was so delicate because, as Secretary Forrestal wrote in his diary, "The difficulty stems mainly from money. . . ." <sup>9</sup> The problem in getting the services to agree on roles and missions was that those agreements would affect decisions on weapon programs in the later years of leaner budgets. Those weapon programs would be ones which each of the services, individually, believed were necessary for the national defense.

Many sections of the Functions Paper have been revised extensively since 1948, but the sections dealing with the primary and collateral functions of the services have been changed only in structure and in wording. The substance remains, except for a change dropping one Army collateral function and adding it to the Navy's primary functions, and another changing one Navy function from primary to collateral. The current version of this document is included as appendix B.

The statements in the Functions Paper are specific enough to provide guidance on what a service can and cannot do outside its primary area of concern, but broad enough to allow for discussion and accommodation between two services when their interests overlap. No service can carve out a mission on its own authority. Missions are assigned by law and by the president and the secretary of defense.

The functions are called primary and collateral, not primary and secondary. The dictionary definitions of collateral include the words

"indirect, concomitant, and ancillary." The implication throughout the discussions of the late 1940s was that forces could be used for certain specified functions beyond the ones for which they were primarily designed. The definitions were not specific in saying how far a service could go in its desire to perform a mission.

The unified and specified commanders are responsible for employing all assigned US combat forces. The president approves the force structures of those combatant commands, and the individual services prepare forces for them. A detailed discussion of command arrangements is in chapter 4. The point here is that although operational command of all American regional combatant forces is vested in the unified commanders, they "have limited power to influence the structure or readiness of those forces."<sup>10</sup> Even though the unified commanders are among the most senior officers of the services, their influence on force structures is limited by their distance from Washington and by the much heavier influence of the services on budget matters.

The unified commands are further subdivided into service component commands. In summarizing the findings of the secretary of defense chartered Defense Organization Study of 1977-1980, Archie D. Barrett wrote:

The commanders in chief of the unified and specified commands (CINCs) have neither the influence nor the clear-cut durable links with higher authority commensurate with their responsibilities as supreme military commanders of US forces in the field directly under the highest civilian authorities. In crucial decisions determining the composition and warfighting capabilities of theater forces, their subordinate component commanders overshadow the CINCs. The far-too-independent components have dual designations as major service commands. This latter identity is much more influential than the joint, or unified, nature of their assignment.<sup>11</sup>



Whether the components are far too independent is not the question in the present study. All available evidence does point to the truth of the statement about service component commanders overshadowing the unified commanders in chief (CINCs), especially in budgetary and force structure matters. It seems then that component commanders are uniquely positioned to play a major role in determining how to use forces for collateral functions. They can ensure that the views of the unified CINCs are heard within single-service lines on matters of mission shortfalls. If a certain component is unable to perform all of its assigned missions, it seems reasonable that the component commanders and the unified CINC could work together to identify ways to do the mission.

The importance of a collateral function should not be determined by the value a military department places on it, but by the need as determined by the unified, combat-employing commander. For example, the unified commander may determine, through the planning process, a greater need for an Air Force squadron to attack enemy naval ships for a time than to attack land targets. The Air Force component commander can then set out to train and equip a particular squadron for that mission. Similar kinds of things have been done many times in the period since the late 1940s by the Navy and Marine Corps. Those services have been much more inclined to seek collateral missions than the Air Force has. The tremendous interdiction effort made by Task Force 77 from Yankee and Dixie stations in the Vietnam War was in support of a land campaign, not a sea campaign. It was a collateral function for which Navy forces were prepared. The Air Force's maritime functions are not necessarily secondary functions, depending on the need at a given time. They are

merely functions around which the Air Force has not built, and will not build, its forces, but for which it may prepare the forces that it does have.

The Air Force and Navy made two agreements on joint maritime operations in 1982. The two memoranda of agreement, reprinted in appendixes D and E, lend additional credence to the proposed efforts of the Air Force component commanders in determining collateral mission requirements. In short, the Navy has invited the Air Force to join in a cooperative effort "to exploit their capabilities to enhance maritime operations in defense of the SLOCs [sea lines of communication]."<sup>12</sup> The Air Force has not been invited to raid the Navy's budget to fund weapons, equipment, and training. The Air Force will have to find money in its own budget to fund requirements for maritime operations, if and when it decides to buy such equipment and training. Some have said that since the Air Force is "helping the Navy to do its job," the Navy should pay for some of it. Secretary Forrestal, foreseeing such an attitude, warned the services many times of the need to cooperate and to sublimate service interests to the total national defense interests.

In some ways, unification has made it harder for the services to work together. Each of the services has experienced growing pains in the unification process, some more than others. Maritime operations, as collateral functions, can and must compete with other functions in the Air Force planning, programming, and budgeting process. This is not a matter of the Air Force helping the Navy and the Marine Corps; it is a matter of the Air Force, Navy, and Marine Corps working together, over water as they have over land, in pursuit of national objectives. The

forces assigned must be prepared to fight the war as the unified commander directs.

The Air Force has reawakened its interest in performing its collateral functions in recent years. Many people are using the term "collateral function" as a justification for inaction, although others use it as a call to action. Next, however, the study describes the Soviet navy to show what threats the Air Force is dealing with.

## NOTES

### CHAPTER 2

1. National Security Act of 1947, section 206(b). Quoted in Alice C. Cole et al., eds., The Department of Defense: Documents on Establishment and Organization 1944-1978 (Washington, D.C.: Office of the Secretary of Defense Historical Office, 1978), 42 (hereinafter cited as Defense Documents).

2. Although Secretary of the Navy Forrestal had decided earlier that a unification bill was going to pass and that he should therefore do what he could to make it favorable to the Navy, several senior Marine officers were still very concerned about the continued existence of the Marine Corps and were testifying to Congress about those concerns as late as June 1947. See Demetrios Caraley, The Politics of Military Unification (New York: Columbia University Press, 1966), 226-33. Secretary Forrestal had been on Iwo Jima with Marine Maj Gen Holland M. Smith just after the flag raising on Mount Suribachi on 23 February 1945. He is reported to have said, "Holland, the raising of that flag means a Marine Corps for the next five hundred years." Apparently the Marines themselves were not that confident and were taking no chances. Quotation from Samuel Eliot Morison, Victory in the Pacific, 1945, vol. 14 of History of United States Naval Operations in World War II (Boston: Little, Brown and Co., 1960), 60-61.

3. Functions of the Armed Forces and the Joint Chiefs of Staff (Washington, D.C.: Office of the Secretary of Defense, 21 April 1948), 2 (hereinafter cited as the 1948 Functions Paper).

4. Ibid., 8, 11, 13.
5. Ibid., 13.
6. Walter Millis, ed., The Forrestal Diaries (New York: Viking Press, 1951), 466-68, 475-79.
7. Memorandum for the record, John H. Ohly, subject: Newport Conference, 23 August 1948, quoted in Defense Documents, 290-91.
8. Millis, The Forrestal Diaries, 477. An excellent case study of the decision to cancel the flush-deck supercarrier USS United States in 1949 may be of interest in showing what services may do in justifying force structures on the basis of collateral functions. See Paul Y. Hammond, "Super Carriers and B-36 Bombers: Appropriations, Strategy and Politics," in Harold Stein, ed., American Civil-Military Decisions: A Book of Case Studies (Birmingham, Ala.: University of Alabama Press, 1963), 465-56.
9. Millis, The Forrestal Diaries, 478.
10. Archie D. Barrett, Reappraising Defense Organization: An Analysis Based on the Defense Organization Study of 1977-1980 (Washington, D.C.: National Defense University Press, 1983), 52.
11. Ibid., 4.
12. Memorandum of Agreement, 9 September 1982, 1.

## CHAPTER 3

### THE SOVIET NAVY AND THE US NAVY

Major war at sea in the twentieth century involves simultaneous air, surface, and subsurface combat. When the US Air Force fights in a major sea war, Air Force forces will combine with the available US Navy assets in action against the enemy fleets. This chapter describes the Soviet and US navies, which are the largest and most capable navies in the world. The chapter also describes the Air Force's major roles in maritime air operations as they developed during and after World War II. The current participation of the Air Force in maritime air operations is discussed, as are several proposals for future Air Force maritime-related programs.

In a global general war, the Soviet navy, acting in concert with the smaller coastal defense-type navies of other Warsaw Pact nations, would pose the only credible seaborne threat to the maritime interests of the United States, other North Atlantic Treaty Organization (NATO) nations, and major US Pacific allies. This statement assumes, of course, that the Chinese will not soon deploy a blue-water navy and that, when they do, they would still take a fairly neutral, or Western-leaning, place in such a war. The next portion of this chapter, then, deals primarily with the Soviet navy.

The Soviet Union's naval expansion and its increasing willingness to display naval power throughout the world have been the subjects of much discussion in the last 20 years. Several pertinent questions have been asked: What are its intentions, short-term and long-term? What capabilities do the Soviets have now, and what will they have in the

future? Can their future capabilities, as well as we can foresee, come close to matching their stated intentions?<sup>1</sup>

### Missions of the Soviet Navy

Soviet naval missions can be stated as: (1) strategic offense, (2) maritime security of the Soviet Union, (3) interdiction of sea lines of communication, (4) support of the ground forces and, in situations short of general war, (5) the support of state policy.<sup>2</sup>

This statement of missions is the US Navy's short answer on their intentions, derived from an evaluation of Soviet naval operations through 1980 and from the writings and speeches of high Soviet political and naval officials. The missions listed above accord fairly well, though not completely, with other analyses of the writings of the commander in chief of the Soviet navy, Adm Sergei G. Gorshkov.<sup>3</sup>

Very briefly, the strategic offensive mission (mentioned above) is performed by nuclear-powered ballistic missile submarines (SSBNs) that must operate far enough from the USSR to be within range of their targets in the United States or elsewhere. This being the most important naval mission, the Soviets have made great strides in this area since 1967, when the first Yankee-class submarine went to sea.<sup>4</sup> The Soviet navy has not shown much intention or ability to use conventional force against land targets except in limited amphibious operations and naval gunfire support on the flanks of the USSR. Protection of the SSBNs from NATO attackers, then, also assumes primary importance. As the range of Soviet sea-launched ballistic missiles (SLBMs) increases in the coming years, the safety of their SSBNs will increase because they will be able to fire missiles from home waters or from any point on the high seas. A large part of the modernization

program of the Soviet fleet has concentrated on the SSBNs and their defenses, including antisubmarine warfare (ASW) ships to combat enemy attack submarines.

Maritime security of the Soviet Union involves stopping enemy forces from attacking the land mass of the USSR. It includes destruction of American, British, and French SSBNs. The SSBNs, in the case of a nuclear attack on the Soviet Union, would act in concert with intercontinental ballistic missiles (ICBMs) and bombers launched from land bases. The ICBMs and bombers would have to be destroyed or diverted by other Soviet forces, but the Soviet navy would be responsible for destroying the allied SSBN force. The surest and best way to prevent the SLBMs from reaching the Soviet Union would be to destroy, damage, or divert the allied SSBN before launch. The best antisubmarine forces available to the Soviets and Americans today are attack submarines, either nuclear-powered (SSN) or diesel-electric (SS). The diesel-electric submarines do not have the capability in range, depth, and submerged time of the nuclear-powered ones. Attack submarines often operate as a team with patrol aircraft, missile-carrying aircraft, and surface ships in an ASW role. The Soviets must counter Western ASW forces effectively if their own attack submarines are to survive and kill Western SSBNs.

Interdiction of the sea lines of communication (SLOCs), the third mission of the Soviet navy, would not be very important in a war of only a few weeks' duration. Many writers in recent years have assumed that an all-out war would culminate very quickly in a strategic nuclear exchange and that the war would then end quickly. Others have disagreed, believing a general war would last months or even years



without resort to strategic nuclear weapons. The United States has attempted, haltingly, to prepare for both kinds of war. In attempts to cool the war of words, both countries have stopped talking in public recently about winning nuclear wars, a familiar theme in the early 1980s. The Soviets have written about the importance of interdicting transoceanic shipping; they have a large submarine force. Submarines were by far the primary platforms for destruction of Allied shipping in both world wars. A combination of escorted convoys, ASW aircraft, and attack submarines reduced the German U-boat threat tremendously.

Civilian defense officials and US naval officers have stated many times that SLOC defense is of critical importance to the Western powers in war, and defense of the sea lanes is the focus of the major Air Force-Navy agreements of 1982.

The Soviet navy would support ground forces by protecting the flanks of the Soviet Union, with naval gunfire and amphibious operations, from seaborne attack. Capt William H. Crocknell's Understanding Soviet Naval Developments states, "The operations involved would appear to be most likely in the Baltic and Black Seas as spearheads to obtain control of the Danish and Turkish Straits, respectively, and also in assaults against Northern Norway and the Japanese Straits."<sup>5</sup> The ability of the Soviet navy to perform this mission appears to be much weaker than that of the US Navy and Marine Corps.

The Soviet navy supports national policy in peacetime in much the same way as the US Navy, but in most cases with much less vigor. US naval leaders emphasize the capability to support national policy often and publicly, and presidents have often used the Navy for these purposes

in situations short of shooting wars, as well as in client states' shooting wars. In a similar manner, the Soviets have used their navy actively to support client states in war. For example, the Soviets moved a large number of ships to the eastern end of the Mediterranean during the Yom Kippur War in October 1973. This has been an effective means of showing concern for national interests over the years, and the Soviets have now become adept at it. In addition, both navies demonstrate "presence," showing the flag off-shore in troubled times, as well as in better times during diplomatic port visits. The USSR has shown a great ability to capture opportunities to influence events through use of its fleets overseas, particularly in the third world.

#### Organization of the Soviet Navy

The Soviet navy is composed of four fleets and three squadrons: the Northern, Baltic, Black Sea, and Pacific fleets, and the South Atlantic, Mediterranean, and Indian Ocean squadrons. In addition, there is a Caspian flotilla, whose ships are generally counted as a part of the Black Sea fleet.

The Soviet Pacific fleet is geographically separated by great distances from the other fleets. Even by the icy and treacherous northern route, it is over 5,000 nautical miles from Murmansk to Vladivostok, the fleet's headquarters. The land lines of communication to the fleet's operating bases are long, tenuous, and poor where they exist at all. For years this fleet has supported intelligence-collecting activities near US military and naval operating areas in and near Vietnam, Guam, Taiwan, Korea, the Philippines, the Aleutians, and throughout the Indian Ocean. The fleet currently maintains major bases

for aircraft and ship operations at Cam Ranh Bay and Da Nang, Vietnam; Aden and Socotra Island, South Yemen; Dahlak Island in the Red Sea; Petropavlovsk on the Kamchatka peninsula; and Sovyetskaya Gavan on the USSR mainland opposite Sakhalin Island. There are several airfields and harbors along the Soviet Pacific coast and on Sakhalin and Kamchatka that could be used as bases for air, surface, and subsurface naval operations. The 1983 edition of Soviet Military Power, for example, depicts a Backfire bomber base near Sovyetskaya Gavan, and credits the Backfire with an unrefueled combat radius that reaches almost all the way from the Arctic bases to Hawaii.<sup>6</sup> Most of the Pacific submarine force is located at Petropavlovsk and is therefore invulnerable to the threat of closing the choke points that restrict access to the open seas. The bases in Vietnam and the Indian Ocean help the Soviets maintain a stable presence of 15 to 25 ships in the Indian Ocean most of the time. The Soviet navy uses several good anchorages in the vicinity. Its ships can also make use of port visits for refueling and resupply.

The importance of several choke points, particularly the ones near home waters, has been obvious to the Russians for many decades. The Russian fleet, sailing from Cam Ranh Bay to Vladivostok in 1905, chose to take the shorter route through the Tsushima Strait between Japan and Korea and met destruction in that strait at the hands of the Japanese. Also of importance to the Soviet navy are the Tsugaru Strait between Honshu and Hokkaido; the Soya, or La Perouse, Strait between Hokkaido and Sakhalin Island; and the narrow straits separating the Kuril Islands. These straits control access of most of the Soviet Pacific fleet into the Pacific Ocean. The Sunda Strait, the Singapore Strait,

and the Strait of Malacca provide quick but tortuous passage from the South China Sea to the Indian Ocean.

The Soviet Pacific fleet now has about 350 to 400 aircraft, including perhaps 50 Backfires and from 60 to 70 other bombers, several of which are at Cam Ranh Bay. Flying from Vietnam, the bombers might have trouble with peacetime flight clearances that would allow easy passage into the Indian Ocean, but their range makes them valuable assets for peacetime missions from Vietnam to Vladivostok.

The Soviet Pacific fleet also has about 28 SSBNs; 92 other submarines; two small aircraft carriers, the Minsk and Kharkov, equipped for vertical takeoff-and-landing (VTOL) aircraft; 87 other major combatants; 225 smaller minor combatants of less than 1,000 tons; and over 100 support and amphibious ships.<sup>7</sup> The principal missions of this fleet appear to be antisubmarine warfare (ASW) missions, offensive nuclear missions, and holding the southern Kuril Islands, which are claimed by Japan but occupied by the Soviet Union.

The Black Sea fleet, headquartered at Sevastopol in the Crimea, must also deal with severe geographical restrictions. It is structured primarily to support the ground forces on the southern flanks of the USSR and to disrupt US and allied naval operations in the Mediterranean.<sup>8</sup> The fleet has major bases at Poti, in Georgia, at the eastern end of the Black Sea, and at Odessa on the western end about 80 nautical miles from the Rumanian border. In addition, many airfields around the sea could support the 70 or more bombers and 80 to 100 other aircraft assigned to the fleet. The Mediterranean squadron derives most of its ships from the Black Sea fleet, except submarines, which come primarily from the Northern fleet.

Several straits restrict Mediterranean operations. The Turkish straits--the Bosphorus and the Dardanelles--are only a mile wide at some points and could easily be closed in wartime by mining or other means; passage through them is restricted in peacetime by the Montreaux Convention. The Black Sea fleet has no SSBNs and only 25 to 30 attack submarines, due to restriction of their peacetime passage through the straits.

Soviet air operations are somewhat restricted by the fact that the Soviet Union does not have direct access to the Mediterranean. Its aircraft would have to overfly either Turkey, a NATO member, or Rumania and Yugoslavia to get from the Black Sea to the Mediterranean easily, but the Soviets have cool relations with Yugoslavia.

The Strait of Sicily is about 90 nautical miles wide, and the Strait of Gibraltar is 8 to 10 nautical miles wide. Although this strait is not as narrow as the Turkish straits, it does provide opportunities for the Western powers to observe and to restrict the flow of traffic to and from the Atlantic. The Black Sea fleet provides a small percentage of the Soviet fleet in the Atlantic.<sup>9</sup>

The Soviet navy uses several anchorages in the Mediterranean, particularly near Crete, Cyprus, and Sicily. The navy has established air and naval facilities in Libya and Syria, and it used Egyptian bases for air and naval operations until the Soviet-Egyptian relationship deteriorated in the early 1970s. The navy has also increased the number of visits to other Mediterranean ports in the last few years.

One VTOL aircraft carrier, Novorossiisk, and two ASW helicopter cruisers, which some sources classify as ASW carriers, are in the Black Sea fleet, even though they are reassigned on occasion. The fleet has

75 to 80 other principal combatants, over 150 minor combatants, about 25 amphibious ships, and 40 support ships.<sup>10</sup>

The Baltic fleet must provide for the defense of the homeland against seaborne attacks through the Baltic approaches. It also supplies submarines and surface ships for Atlantic and Mediterranean operations. The fleet is headquartered at Kaliningrad, near Poland. Bases are located all along the Baltic coast of the USSR, including bases on the coasts of Latvia, Estonia, and Lithuania, which the Soviet Union took over in World War II. The United States does not recognize these countries as a part of the USSR. The bases are located at Klaipeda, Liepaja, Riga, Paldiski, and Kronshtadt near Leningrad.<sup>11</sup>

The Danish straits, 5 to 10 nautical miles wide at most points, could be closed by mining, or the interested nations could easily monitor ship passage for later action. Both NATO, of which Denmark is a member, and the Soviet Union have a great interest in controlling these straits. NATO could block the straits completely, but there is the question of which country would be hurt the most by such action. Denmark, West Germany, and Sweden (not a member of NATO) could be resupplied by sea from the Atlantic side, but East Germany, Poland, and the Baltic coast of USSR would be cut off from Atlantic shipping.

Unfortunately, such action would also deny Finland its seagoing commerce and put it more at the mercy of the Soviet Union than it is now. Finland has had to face the reality that the USSR, with which it has a long common border, is a large and powerful neighbor. Finland has poor land lines to the non-Soviet world. The Soviets could exploit the closure of the Danish straits by blocking other trade routes to Finland,

thus putting a tight squeeze on a nation which the West is anxious to keep out of the Eastern camp.

The Baltic fleet has a handful of Golf II-class conventionally powered ballistic missile submarines; 25 attack submarines; about 40 cruisers, destroyers, and escort ships (major combatants); 25 amphibious ships; 280-300 minor combatants; and about 100 bombers plus a lesser number of other combat aircraft.<sup>12</sup>

The Northern fleet is based primarily on the Kola Peninsula. Its headquarters is at Severomorsk, near Murmansk. Its major bases are along the Motovskiy Gulf and at Gremikha, about 150 nautical miles east of Murmansk; Polyarnyy, across the river from Severomorsk; and Archangel, on the White Sea coast. There are two major airfields at Murmansk, at least one of which is used for naval aviation. About 40 airfields are on the Kola Peninsula.<sup>13</sup>

This fleet provides a large number of combatant ships for the Soviet Union's far-flung Atlantic Ocean and Caribbean Sea operations. It also supplies submarines to the Mediterranean squadron. The fleet has a naval infantry (marines) that practices amphibious landings. In wartime the naval infantry is to prevent interference by Western ground forces with the passage of the Northern fleet around northern Norway. In such action, of course, they could be assisted by Red Army forces in the area.

The Northern fleet must deal with two major geographical constraints because of its position on the Kola Peninsula. The first constraint is that the fleet is far enough north that ice is a major factor in its operations. The fleet can sail east to the Pacific only about two months of the year due to ice conditions. The northern route is almost

6,000 nautical miles, but the alternative routes are much longer. The Suez Canal route, which is likely to be closed early in any major war in the Mediterranean or the Middle East, is almost 13,000 nautical miles; the route around the Cape of Good Hope is almost 17,000 nautical miles. These distances are important, among other reasons, because the Pacific fleet has such poor land lines of communication. Also, the Soviet navy moves its ships from one fleet to another at a much greater rate than the US Navy, often involving 10 percent of the Soviet navy in a year.<sup>14</sup>

The other major geographical constraint is that of passage through the Greenland-Iceland-United Kingdom (G-I-UK) gap, which some writers shift northward a few miles and call the Greenland-Iceland-Norway (G-I-N) gap. In a general war, the Soviet navy must move a sufficient number of ships into the Atlantic to disrupt allied shipping between North America and Europe. If the Baltic fleet can be stopped at the Danish straits, then a great naval buildup would occur in the vicinity of both sides of the G-I-N gap. This also assumes that the Northern fleet cannot be stopped before it has passed northern Norway. Soon after a war between the NATO-Warsaw Pact nations begins, mines, attack submarines, ASW ships, aircraft carriers, naval aircraft, and other major surface ships of both sides can be expected to converge at this gap. This is one of the two places in the world where naval strategies can count on a major sea battle in a global war, the other being the vicinity of the battle for the breakout in the northwest Pacific.

The Northern fleet is as well balanced and well prepared for major sea action as any other fleet in the Soviet navy. The fleet has about 46 SSBNs; over 130 other submarines, including about 10 in the



Mediterranean; the carrier Kiev; 75 to 80 major and 120 minor surface combatant ships; 12 to 20 amphibious warfare ships; and about 80 support ships. The Northern fleet also has 75 to 95 bombers; 70 reconnaissance aircraft; and 75 ASW aircraft, including the Bear F variant.<sup>15</sup> About 100 Backfire bombers are a part of Soviet naval aviation. The Backfire has an unrefueled combat radius that allows it to takeoff from Northern fleet bases, fly around Norway, and cover the Atlantic as far south as northwest Africa and as far east as the Davis Strait, which separates Greenland from Canada.<sup>16</sup>

### Soviet Fleet Capabilities

In recent years American naval leaders have emphasized that, regardless of any misgivings about US naval strength, they would not exchange US Navy capabilities for those of the Soviet navy. In numbers, the Soviet navy has actually decreased in the last three decades. It is still far larger than the US Navy. The decline in numbers is at odds with the general public's perception. Their decline is due to the decommissioning of hundreds of obsolete submarines in the 1960s and 1970s. Numbers are not the most important characteristic of the Soviet fleet because its ships have improved in quality. The fleet is more balanced than ever before and has shown its ability to respond to perceived national needs in times of crisis. The Soviet navy is much more capable of performing its naval mission now than 20 or 30 years ago.

Information on the size and capabilities of the Soviet navy comes from many sources. Therefore it is difficult to establish exact numbers. Various sources have different purposes in publishing this information.

Some officials of the Department of Defense have been accused of "crying wolf" at budget hearings each year by printing numbers larger than other sources. However, a look at some rough numbers is instructive.

The Soviet Union is now building its first large aircraft carrier. It will have steam catapults and arresting gear for conventional takeoff-and-landing aircraft, like all US carriers. The carrier will be nuclear powered, will displace about 60,000 tons, and should be commissioned in the late 1980s or early 1990s. The US naval community is watching this development with great interest, but it is impossible to state precisely what the mission of the carrier and its battle group will be. One writer has stated that a Soviet carrier battle group could provide a sanctuary for its nuclear-powered ballistic missile submarines (SSBNs), threaten NATO amphibious forces, support its own amphibious landings, or attack US-NATO supply lines.<sup>17</sup> This carrier will be roughly the same size as the smallest American carrier and will likely carry Su-24 Fencer or Su-17 Fitter aircraft, or both, in fighter and attack roles.<sup>18</sup> The air wing assigned to the new carrier will be smaller than US air wings, but much larger than the contingent on the Kiev-class carriers, possibly about 60 aircraft.<sup>19</sup> However, the Soviets have never faced the problems inherent in conventional carrier operations. They can, of course, learn something from the experiences of other countries. But it will probably take the Soviets many years before they can develop an efficient and safe carrier operating tempo for combat use.

The USSR has built four conventionally powered Kiev class aircraft carriers, Kiev, Minsk, Novorossiisk, and Kharkov, the first of which entered operational service in the Black Sea fleet in 1976. Each

carrier can normally carry from 13 to 15 Yak-36 Forger VTOL aircraft and about 16 Ka-25 Hormone helicopters. The carrier cannot accommodate conventional fixed-wing aircraft. The Forger has a combat radius of about 150 nautical miles and is used primarily for antisubmarine warfare. The Hormone is used for ASW and target acquisition for SS-N-12 antiship missiles.<sup>20</sup>

Two helicopter cruisers, Moskva and Leningrad, entered service in the late 1960s and are currently assigned to the Black Sea fleet. Each carries up to 18 Hormone helicopters for ASW and is protected by surface-to-air missiles (SAMs) and antiaircraft artillery (AAA). The maximum speed is about 30 knots. Only two of these were built, probably because the Soviets saw the necessity and possibility for better aviation capabilities, which the Kiev class represents.<sup>21</sup>

The Soviet navy has several classes of SSBNs estimated at 80 submarines. The Typhoon class is the newest. The Soviets have only one of this class, with an undetermined number under construction. This submarine, the largest ever built, has a probable speed of 24 knots; it has 20 launcher tubes for the SS-NX-20 missile with a range of over 4,200 nautical miles.<sup>22</sup> It is currently based with the Northern fleet.<sup>23</sup>

There are 14 Delta III-class submarines, 4 Delta II-class, and 18 Delta I-class submarines. Each class has a speed of about 25 knots. The submarines of the Delta III class have 16 tubes for SS-N-18 missiles, with a range of 4,000 nautical miles. The submarines of the Delta II class have 16 tubes, and those of Delta I, 12 tubes, for the 5,000 nautical-mile-plus SS-N-8 missile. The submarines of the Delta classes are assigned to the Northern and Pacific fleets, and their missiles are

capable of hitting some North American targets from home waters, according to the Defense Department.<sup>24</sup>

Jane's Fighting Ships stated in 1981 that there are 29 Yankee-class SSBNs, whereas The Military Balance 1983-1984 puts the figure at 25. Some of them have been dismantled to comply with strategic arms agreements. One Yankee II-class SSBN carries 12 SS-N-17s, with a range of 1,700 to 2,100 nautical miles. The other SSBNs are of the Yankee I class, each of which has 16 SS-N-6 missiles of 1,300 to 1,600 nautical mile range. These submarines, which must patrol the US coasts to be effective, have been spotted off both coasts on occasion. Fifteen submarines are assigned to the Northern fleet, 10 to the Pacific.<sup>25</sup>

There are six Hotel II-class SSBNs, each fitted with three tubes for the SS-N-5 missile, with a range of 700 to 800 nautical miles. The two Hotel II-class submarines carry the SS-N-8, making them more potent threats in open waters.<sup>26</sup> One Golf III-class submarine has six SS-N-8 missiles, and 13 of the Golf IIs have three SS-N-5s each. They are conventionally powered submarines (SSB). Six of the Golf IIs are in the Baltic fleet; the rest are in the Pacific. Jane's Fighting Ships describes them as theater, rather than strategic, nuclear forces.<sup>27</sup>

The Soviet navy has launched five classes of nuclear-powered cruise missile submarines (SSGNs): Oscar, Papa, Charlie II, Charlie I, and Echo II. These submarines are capable of speeds up to 25 to 30 knots when submerged, and most of them carry antiship cruise missiles with ranges of 30 to 60 nautical miles. The Oscar carries 24 missiles with a range of 250 nautical miles or more, and Echo II-class submarines have eight missiles of 250 to 300 nautical mile range. The Soviet navy has a total of 49 SSGNs.<sup>28</sup> Also the Soviet navy has 20 diesel-powered cruise

missile submarines, four of which (Whiskey-Long Bin and Whiskey-Twin Cylinder) are probably too noisy and inefficient to be of any practical use in combat. Each of the 16 Juliett-class submarines carries four antiship cruise missiles with more than a 250 nautical mile range.<sup>29</sup>

The Soviet navy has about 200 attack submarines in 15 classes. About 60 of these submarines are nuclear powered. The Alfa-class submarines are believed to have a submerged speed of 42 knots, much faster than any other submarine in the world. Jane's Fighting Ships states that the Alfa may carry nuclear-tipped antiship missiles with a 25 nautical mile range. Several classes of Soviet submarines are reaching the end of their service and may be scrapped soon. Since the Soviet Union has not committed itself exclusively to nuclear power, it will continue to produce diesel boats. Most Soviet attack submarines have either six or eight torpedo tubes. The SSNs usually have a submerged speed of about 30 knots; the others, 20 knots or less. By comparison, most of the US Navy's SSNs can move at about 30 knots or more when submerged.<sup>30</sup>

The Kirov is the first of a new class of cruisers, with at least three more cruisers of this class to follow. The cruiser is nuclear powered, carries two to five Hormone helicopters, and carries long-range missiles for protection against air, surface, and underwater threats. Except for aircraft carriers, this cruiser is the largest warship built by any nation since World War II.<sup>31</sup> The Kirov is assigned to the Northern fleet.

The Soviet navy has up to 7 other classes of cruisers, 10 classes of destroyers, and 13 classes of frigates, or escort ships. Authorities differ on whether the Sovremenny class is a cruiser or destroyer class.

These major surface combatant ships (generally defined as ships over 1,000-ton displacement) have increased in number from about 220 in 1969 to 282 in 1983.<sup>32</sup> There are about 34 cruisers, 65 destroyers, and 183 frigates in the Soviet navy.<sup>33</sup> The armament and firepower vary greatly from class to class, but generally these ships are well armed with weapons for all possible threats.

For example, the Kresta II-class guided missile cruiser is armed with a single Ka-25 Hormone A helicopter for ASW; eight SS-N-14 antisubmarine missile launchers with a 30 nautical mile range, which could also be used in an antiship role; four 30 nautical mile range SA-N-3 missile launchers; AAA guns; depth charges; and torpedoes.<sup>34</sup> This class, 10 of which were built between 1966 and 1976, will probably undergo modernization when its weapons become obsolete, just like other, older classes have. In recent years the USSR has introduced new classes of major combatants at a much faster rate than the United States has. The Soviet modernization program has contributed much more toward increasing the might of the Soviet navy than increasing the number of surface combatants.

The minor combatants of the Soviet navy include about 150 fast attack craft carrying antiship and surface-to-air missiles (SAMs) and guns; more than 300 fast patrol craft, used primarily against submarines; 80 river patrol craft; three minelayers; and about 350 minesweepers, two-thirds of which are suitable only for sweeping coastal areas and rivers.<sup>35</sup>

Amphibious ships of the Soviet navy are becoming increasingly important, particularly with the introduction of the new Ivan Rogov class. The Ivan Rogov-class ship can carry a 400- to 600-man battalion

of naval infantry, its organic tanks, and three to five helicopters over a long range (10,000 miles at 12 knots) for amphibious assault. It is protected by SAMs, guns, and rockets and represents a great improvement in Soviet amphibious capability.<sup>36</sup> The Soviet navy has about 80 other amphibious ships, all much smaller than those in the Ivan Rogov class. The Soviet navy also has a few hundred auxiliary ships (tankers, resupply, etc.) and 58 to 60 known intelligence collectors in addition to ocean research vessels.<sup>37</sup>

Soviet naval aviation includes 100 Tu-22M Backfire B bombers armed with the AS-4 Kitchen antiship missile, which may be capable of inertial guidance to a target over 300 nautical miles away.<sup>38</sup> The Backfire B bombers were added to a land-based fleet of about 220 Tu-16 Badgers, armed with AS-5 Kelt and AS-6 Kingfish missiles that have about half the range of the Kitchen, and 40 Tu-22 Blinders.<sup>39</sup>

The combination of the Backfire and Kitchen probably represents the greatest airborne threat existing today to the US Navy surface fleet. In the last two decades, the USSR has improved its air-to-surface and surface-to-surface cruise missile technology at a much faster rate than the United States, and these improvements can be expected to continue. The Soviet navy has often been constrained by its desire to operate ships under the protective cover of Soviet land-based aircraft because the Soviet navy has no organic air power in its fleets to meet US opposition.

The Soviet navy has about 40 Yak-36 Forger aircraft that can be used for air-to-ground missions in addition to its ASW missions. It also has about 35 Su-17 Fitter air-to-ground fighters.<sup>40</sup> Ninety Tu-16 Badger, 45 Tu-95 Bear D, 5 Tu-22 Blinder C, and 10 An-12 Cub airplanes

and other Ka-25 Hormone and Ka-32 Helix helicopters are used for maritime reconnaissance, patrol, and electronic countermeasures (ECM). About 200 fixed-wing aircraft, including 50 Bear F variants, and about 240 helicopters are used for ASW missions. Seventy-five Tu-16 Badgers provide air refueling support to Soviet naval aviation. Ten helicopters are used in mine countermeasure missions.<sup>41</sup>

### Soviet Naval Force Employment

How will the Soviet navy employ this wide array of forces to perform its missions in wartime?

The SSBNs, if missile range does not restrict them, should stay in enclosed waters near home bases and remain under the protective cover of land-based aircraft and ASW ships. Some of these waters include the Sea of Okhotsk, Sea of Japan, and the White, Barents, Baltic, and Black seas. Depending on its ability to close certain straits to the US Navy, the Soviet navy could keep the SSBNs there indefinitely to perform their missions.

The Soviet naval infantry is a small force, less than 10 percent the size of the US Marine Corps. This small force must seize and hold several critical coastal areas if the Soviets are to control ship passage. The Soviets must control these coastal areas in order to keep the US Navy out of Soviet navy operating areas and to allow passage of their own ships to the open oceans. Some of these areas are the Kuril Islands, already occupied by Soviet troops; northern Hokkaido; parts of the northern Norwegian coast; and the Turkish straits. The Red Army can provide a backup force for this capability, but any amphibious assault would be led by the naval infantry. The Pacific and Northern fleets



each possess a naval infantry division; the other two fleets have regiments or brigades, with tanks, artillery, SAMs, and amphibious ships. Although their amphibious assault capability is increasing, it is not comparable to that of the US Marines.

As long as the USSR and the United States do not resort to the use of strategic nuclear weapons, the main striking power of the Soviet navy will be in its surface action groups (SAGs). Although the carrier is the centerpiece of US battle groups, only a few Soviet SAGs would have any real aviation capability because the Soviet navy has few carriers, and they are designed almost solely for antisubmarine warfare. A typical SAG might consist of three to five cruisers and destroyers, one or two attack submarines for protection, and several support ships. The composition of each SAG will vary with the SAG's mission and with the size of the anticipated US force to be encountered. Much larger formations of task forces can be expected when the battle is crucial or when the US task force is large. The Soviet navy has conducted exercises with very large formations a few times, for example, the Okean series in 1970 and 1975. These exercises were staged prior to meetings of the Congress of the Communist Party of the Soviet Union. Those meetings occur about every four to five years. The question of whether the timing of the exercises was coincidental or purposeful (for convincing the congress of the power and ability of the Soviet navy) has not been answered satisfactorily, but it is probable that Soviet naval leaders went to extraordinary lengths to make the displays impressive to the party.

In recent years the Soviet navy has displayed a tendency toward larger deployments for longer periods away from home waters than was the

case in the 1970s. Until the early 1960s the Soviet navy was thought of primarily as a close-in coastal defense force. The modernization programs of the 1950s were combined with political decisions in the early 1960s to show more muscle overseas in the wake of Soviet foreign policy setbacks. The Soviet navy increased the number of ship-days per year out of home waters from almost none in the early 1960s to more than that of the US Navy in the late 1970s. The US Navy, of course, decreased its number of ships and ship-days out of area with its decreasing participation in the Vietnam War. The Soviets hit an early peak in ship-days out of area in 1973-74, when they reacted quickly in the war between Israel and the Arab states of Egypt and Syria. In 1979 the Soviet navy attained about 16,500 ship-days in the Mediterranean, compared to 10,530 for the US Navy. Figures for other areas are: Atlantic, 13,500 (USSR), 10,080 (US); Pacific, 8,400 (USSR), 17,150 (US); Indian Ocean, 7,600 (USSR), 3,520 (US); Caribbean, 1,050 (USSR), number not reported (US). The total number of ship-days out of area in 1979 was 47,050 (USSR) and 41,280 (US).<sup>42</sup>

These numbers should be taken with a grain of salt. In total number of ships, the Soviet navy has more ships than the US Navy. The Soviet navy usually operates about 15 percent of the fleet away from home ports and waters; the US Navy, about 30 percent. In general, the Soviet navy is much less efficient in the way it operates away from home waters. For example, the Soviet navy suffers from a lack of underway replenishment capability, a deficiency it is working hard to correct. When the Soviet navy performs underway replenishment, it is an awkward series of maneuvers done at a slow cruising speed, compared to the higher-speed, side-by-side replenishment of the US Navy. The Soviets

prefer to anchor their ships and then take on fuel and cargo. They sometimes take on cargo in port because of their inability to sustain operating forces at sea. Therefore, although ship-day numbers are significant, and although the Soviets are increasing their capabilities for replenishment, numbers alone are not good indicators of at-sea operations that must be effective in combat. To be effective, combat forces must be able to resupply themselves without being out of action for extended periods.

### US Navy Capabilities

How is the US Navy organized, trained, and equipped to face the Soviet navy?

From the guidelines given by Congress, the president, and the secretary of defense, the US Navy has defined its wartime missions as sea control and power projection.

Sea control consists of providing the ability to operate unhampered over, on, and beneath the surface of the sea. A nation must control the sea to the extent that it can allow merchant and naval ships to traverse the sea lanes. In some ways, sea control is to the seas what air superiority is to the air. It is not necessary for a nation to control all seas all the time, but it is important that a nation control certain areas. When a nation has established control, its merchant ships can conduct trade, and naval forces can attack all types of enemy shipping and land targets in the surrounding area. Sea control is accomplished by locating and destroying hostile naval forces at sea, by denying enemy forces access to the sea at choke points, by using escorts and cover to keep enemy ships away from ships in transit, and by mining harbors and straits.<sup>43</sup>

Power projection can be a part of sea control, or it may be an independent action taken after control is established. An example of the first case is the amphibious landing of marines, with air cover and gunfire support from ships offshore, in hostile areas that are critical to sea campaigns, because they can generally control the surrounding waters. This kind of power projection was a major part of the Navy-Marine Corps mission in the Pacific in World War II.

The second case involves projection of power ashore as part of the land and air campaigns. In this case, large ships bombard targets inland, sometimes as much as 25 miles away. Marines can land under hostile fire, then seize and establish beachheads to pave the way for larger army forces with heavier support equipment. Carrier battle groups can provide aircraft to bomb targets in counterair and interdiction campaigns. Actual operations of the Marine Corps since the end of World War II have not followed this pattern to the letter. Generally, they stayed and fought far from the beaches in Korea and Vietnam. The Inchon landing in Korea, however, is an example of this kind of power projection in support of a land campaign without a clear-cut naval purpose. Naval aviation's part in the interdiction campaigns in Korea and North Vietnam and naval gunfire support in Vietnam and Lebanon (1983) are clear examples also.

The US Navy is composed of the operating forces and a shore establishment for training, equipping, and other support. The operating forces are the Pacific Fleet (PACFLT), the Atlantic Fleet (LANTFLT), US Naval Forces Europe (USNAVEUR), and the Military Sealift Command (MSC). The Military Sealift Command provides ocean transportation for the Defense Department and is not a part of the combat force discussed

below. The Pacific Fleet is headquartered at Pearl Harbor, Hawaii, and controls operations of the Third Fleet, Seventh Fleet, and assigned Marine Corps forces.

The Third Fleet, also headquartered at Pearl Harbor, has bases along the US Pacific coast and operates primarily in the eastern Pacific. It consists of about two SSBNs, 30 attack submarines, 3 carriers, 44 other major combatants, and 31 amphibious ships.<sup>44</sup> The Third Fleet commander also controls land-based maritime patrol and reconnaissance aircraft at several bases in California and Hawaii, on Adak Island in the Aleutians, and on Midway Island.<sup>45</sup>

The Seventh Fleet headquarters is at Yokosuka, Japan, and the fleet has major bases at Subic Bay, Philippines; Agana and Apra Harbor, Guam; and Midway Island. Its ships also use facilities at Diego Garcia, a British possession in the Chagos Archipelago, Indian Ocean. The fleet has air units at Atsugi, Misawa, and Kadena, Japan; Cubi Point, Philippines; Agana, Guam; and Diego Garcia, as well as at other facilities on smaller Pacific islands. The Seventh Fleet has about 45 ships, including attack submarines, three or four aircraft carriers, surface combatants, and support ships, all operating in the western Pacific. In addition, it provides a carrier battle group of about six combatants and nine support ships for Indian ocean operations.<sup>46</sup>

Marine combat forces in the Pacific are in the III Marine Amphibious Force, with headquarters at Camp Butler, Okinawa, Japan. The III Marine Amphibious Force (MAF) is composed of the 3d Marine Division on Okinawa and the 1st Marine Aircraft Wing on Okinawa, Honshu, and Oahu.

The I Marine Amphibious Force at Camp Pendleton, California, is likewise composed of a division and air wing, as is the II Marine

Amphibious Force at Camp Lejeune, North Carolina. A typical Marine air wing has over 100 aircraft for fighter and ground attack missions in support of Marine operations. Elements of these MAFs, of different sizes, are temporarily deployed at locations in many parts of the world for various missions. The 1958 revision to the National Security Act of 1947 requires a minimum of three combat divisions and three air wings in the Marine Corps. A fourth division and air wing are in the Marine Corps Reserve.

The Atlantic Fleet has its headquarters at Norfolk, Virginia, which also serves as headquarters for several other US and NATO commands. Atlantic Fleet ships are in the Second Fleet, which is also at Norfolk. The Second Fleet has about a dozen major bases along the US Atlantic coast and other bases at New Orleans, Louisiana; Roosevelt Roads, Puerto Rico; Keflavik, Iceland; Holy Loch, Scotland; and Guantanamo, Cuba. The fleet has 31 SSBNs, 41 attack submarines, 5 carriers, 76 other surface combatants, and 27 amphibious ships.<sup>47</sup> This fleet operates SSBNs in the Atlantic Ocean. Fighter, attack, patrol, antisubmarine, and operational training aircraft are located at naval air stations at Brunswick, Georgia; Bermuda; the Azores; Oceana, Virginia; Key West, Jacksonville, and Cecil Field, Florida; Guantanamo; Roosevelt Roads; and Keflavik.<sup>48</sup>

The Sixth Fleet and the Middle East Force are two major elements of US Naval Forces Europe (USNAVEUR), the naval component of the US European Command (USEUCOM). The Middle East Force operates in the Red Sea and Persian Gulf area, using ships deployed from other fleets. The Sixth Fleet headquarters is at Gaeta, north of Naples; its ships operate mainly in the Mediterranean and Black Sea. It uses bases at

Naples; Sigonella, Sicily; La Maddalena, a small island off the north coast of Sardinia; and Rota, Spain, about 60 miles from Gibraltar on the Atlantic side of the strait. The fleet has about 41 ships, including one or two attack submarines and one or two carrier groups, depending on availability and other deployments.<sup>49</sup>

The primary formation of surface warships in the US Navy is the aircraft carrier battle group. The Navy currently has 14 carriers, is building one more, and has contracted with Newport News to build two more as a result of fiscal year (FY) 1983 funding. The Lexington is a training carrier not included when the Navy counts its carriers. Table 1 lists some basic data on US aircraft carriers.<sup>50</sup>

A service life extension program will extend the active service of the oldest carriers to 50 years and beyond. The Coral Sea will replace the Lexington as the training carrier, probably in the early 1990s when CVN-73 enters service. The Lexington, built in World War II, will be deactivated. The 600-ship Navy of the 1990s, which the Reagan administration has determined to build, will be centered around 15 carrier battle groups, seven of which will include nuclear-powered carriers. In the 1970s, the Navy decommissioned several World War II-vintage carriers and discontinued the practice of designating certain carriers as attack, escort, ASW, and light carriers. They are now considered multipurpose carriers, either conventionally powered (CV) or nuclear-powered (CVN), and are capable of a variety of missions. The Navy generally has one or two carriers in overhaul or extensive repairs, and has made plans to have 15 deployable carriers through the 1990s.

Table 1  
US Aircraft Carriers

<u>Number</u>	<u>Commissioned</u>	<u>Name</u>	<u>Normal Assignment</u>	<u>Displacement Tons (full load)</u>	<u>Aircraft Assigned</u>
CV-41	10 Sep 45	<u>Midway</u>	Pacific	62,200	75
CV-43	1 Oct 47	<u>Coral Sea</u>	Pacific	62,200	75
CV-59	1 Oct 55	<u>Forrestal</u>	Atlantic	75,900	70
CV-60	14 Apr 56	<u>Saratoga</u>	Atlantic	75,900	70
CV-61	10 Aug 57	<u>Ranger</u>	Pacific	79,300	70
CV-62	10 Jan 59	<u>Independence</u>	Atlantic	79,300	70
CV-63	29 Apr 61	<u>Kitty Hawk</u>	Pacific	80,800	85
CV-64	27 Oct 61	<u>Constellation</u>	Pacific	80,800	85
CVN-65	25 Nov 61	<u>Enterprise</u>	Pacific	89,600	84
CV-66	23 Jan 65	<u>America</u>	Atlantic	78,500	85
CV-67	7 Sep 68	<u>John F. Kennedy</u>	Atlantic	82,000	85
CVN-68	3 May 75	<u>Nimitz</u>	Atlantic	91,500	90+
CVN-69	18 Oct 77	<u>Dwight D. Eisenhower</u>	Atlantic	91,500	90+
CVN-70	26 Feb 82	<u>Carl Vinson</u>	Atlantic	91,500	90+
CVN-71	circa 87	<u>Theodore Roosevelt</u>	Under construction	91,500	90+
CVN-72	circa 89	<u>Abraham Lincoln</u>	Under contract	91,500	90+
CVN-73	circa 91	<u>George Washington</u>	Under contract	91,500	90+



### Aircraft Carrier Controversies

The leaders of the US Navy decided at the end of World War II that large aircraft carriers were more capable and more easily defended than small ones and that American naval power should include them. They have maintained those beliefs ever since. Smaller carriers would cost less per copy initially, but would not be able to handle the required missions on a global scale. Carrier-building programs have been delayed, cut back, and cancelled because of funding constraints at times, and some (particularly in the Air Force) have argued that large carriers are unnecessary for conducting war at sea.

From the Air Force viewpoint, two arguments on the issue of whether the United States should build large carriers have remained the same since the end of World War II. The large carriers' main purpose is a primary Air Force mission (say the opponents of carriers), and they are very expensive to build and maintain. The Air Force has, in the last 20 years, added the third argument that carriers are the largest, most lucrative, most vulnerable targets in existence for an enemy to attack. This last argument is undoubtedly true if the Soviets are able to get Backfire bombers through the outer carrier defenses to launch the long-range Kitchen missiles.

The Navy, on the other hand, counters these with their own powerful arguments. Aircraft carriers (they say) have been the vehicle of choice more often than any other when a president has decided to show national concern and resolve in times of trouble overseas, short of war. They offer a platform from which aircraft can operate when the United States cannot or does not obtain basing and overflight rights. With the protective shield of early warning aircraft and long-range fighter-

interceptors, carriers are adequately defended from all threats and form a powerful vehicle for offensive attacks on enemy ships and land areas. They are no more expensive to buy, maintain, and operate over several decades than a numerically larger force of small carriers that don't have the same offensive power and are more easily damaged or sunk.

With the cancellation of the flush-deck supercarrier United States in April 1949, it appeared that the Air Force, with the B-36 and its strategic bombing mission, had won the argument. Secretary of the Navy John L. Sullivan resigned in protest when the carrier construction was stopped just after the keel was laid. The House Armed Services Committee held hearings in August and October 1949 on the cancellation, unification of the services, and strategy. Many active and retired four- and five-star generals and admirals testified in the October hearings, as did senior civilian defense officials and others, including former President Herbert Hoover. Adm Louis E. Denfeld, chief of naval operations, testified in October, contrary to the new secretary of the Navy's previous testimony, that the carrier should not be sacrificed in the fiscal year 1951 Navy program. Although the hearings did not affect the immediate decisions on the United States and the B-36, Secretary of the Navy Francis P. Matthews fired Admiral Denfeld.<sup>51</sup>

Admiral Denfeld, who had been chief of naval operations since December 1947, had been in office during a particularly hard period for the Navy. Roles and missions of the services had been defined during that time, and he had held together a Navy that was fearful of decimation and leery of the coming nuclear deterrence strategy, which was supposed to deter conventional as well as nuclear war. High-ranking Navy officers seethed over Admiral Denfeld's removal. His firing and

the circumstances surrounding it were no doubt major factors in the problems the Air Force and Navy had over the use and control of air power. A few individual congressmen and the popular press helped fan the flames of the controversy. The choice of Adm Forrest P. Sherman as the new chief of naval operations in 1949 proved to be fortunate, because he helped smooth interservice relations at the same time that he managed to keep the lid on the Navy.

Seen from the Navy's viewpoint, when the Air Force has discussed carriers, the discussion has centered on how to replace carrier air power with land-based, Air Force-controlled air power. The services have never had a serious, long-term program for integrating their air power for the achievement of common objectives. Even in the Korean and Vietnam wars, when the Air Force stopped attacking carriers as being unnecessary, a major concern of Air Force generals was control of carrier aircraft. In fairness to the generals, it is necessary to point out that there were no major naval engagements in either war. Aircraft were used in the interdiction campaigns and in other traditional Air Force missions, as viewed by the Air Force.

The 1982 Air Force-Navy memoranda of agreement may represent, among other things, a new spirit of cooperation unprecedented since the end of World War II. Public statements by the present secretary of defense and members of the Joint Chiefs of Staff often refer to this new spirit. The actions of the services in integrating and unifying their operations will be the best indicator of whether there is real commitment to that spirit.

During World War II, and to a lesser extent since then, five basic missions have been performed by the Air Force in maritime operations:

antisubmarine patrol, convoy cover, ship attack, aerial mine laying, and sea surveillance. All of these fit easily into the three Air Force collateral functions. Air Force interest in these functions has varied over time. The recent resurgence of interest in them has been driven mostly by the growth of the Soviet surface navy and by direction from secretaries of defense. In the next chapter, a short review of significant Air Force participation will help you understand how Air Force operations have or have not been effective in maritime operations.

## NOTES

### CHAPTER 3

1. Information on Soviet, American, and NATO naval and air strengths, including number of ships and aircraft, ordnance ranges and capabilities, basing, deployment, organization, etc., is available in many sources. See Capt William H. Cracknell, USN, Understanding Soviet Naval Developments, 4th ed. (Washington, D.C.: Office of the Chief of Naval Operations, January 1981); Bradford Dismukes and James M. McConnell, eds., Soviet Naval Diplomacy (New York: Pergamon Press, 1979); Soviet Military Power 1983, 2d ed. (Washington, D.C.: Office of the Secretary of Defense, March 1983); The Military Balance 1983-1984 (London: International Institute for Strategic Studies, Autumn 1983); NATO and the Warsaw Pact Force Comparisons (n.p., 1982), published by NATO; and Capt John Moore, RN, ed., Jane's Fighting Ships 1981-82 (London: Jane's Publishing Co., published annually).

2. Cracknell, Understanding Soviet Naval Developments, 8.

3. See, for example, John S. Hibbits, "Admiral Gorshkov's Writings: Twenty Years of Naval Thought," Naval Power in Soviet Policy (Washington, D.C.: Government Printing Office, 1978), 1-21.

4. Cracknell, Understanding Soviet Naval Developments, 15.

5. Ibid., 11.

6. Soviet Military Power 1983, 25.

7. The Military Balance 1983-1984, 18.

8. Dismukes and McConnell, Soviet Naval Diplomacy, 38.

9. Ibid., 41-42.

10. Ibid., 40; The Military Balance 1983-1984, 18.
11. The Military Balance 1983-1984, 18.
12. Ibid.; Dismukes and McConnell, Soviet Naval Diplomacy, 40.
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14. Dismukes and McConnell, Soviet Naval Diplomacy, 41-42.
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16. Soviet Military Power 1983, 25.
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20. Capt John Moore, RN, ed., Jane's Fighting Ships 1981-82 (London: Jane's Publishing Co., 1981), 492.
21. Ibid., 492, 496.
22. Ibid., 476.
23. Soviet Military Power 1983, 21.
24. Ibid., 22; The Military Balance 1983-1984, 14; Moore, Jane's Fighting Ships 1981-82, 476-77.
25. Soviet Military Power 1983, 22; The Military Balance 1983-1984, 14; Moore, Jane's Fighting Ships 1981-82, 477.
26. Soviet Military Power 1983, 22; The Military Balance 1983-1984, 14.
27. The Military Balance 1983-1984, 14, 18; Moore, Jane's Fighting Ships 1981-82, 479.

28. The Military Balance 1983-1984, 16; Moore, Jane's Fighting Ships 1981-82, 480-81, 762-63.

29. The Military Balance 1983-1984, 16; Moore, Jane's Fighting Ships 1981-82, 482-83.

30. The Military Balance 1983-1984, 16; Moore, Jane's Fighting Ships 1981-82, 484-91, 619-28, 763; Cracknell, Understanding Soviet Naval Developments, 39.

31. The Military Balance 1983-84, 16-17; Moore, Jane's Fighting Ships 1981-82, 494, 763; Cracknell, Understanding Soviet Naval Developments, 34-36.

32. Cracknell, Understanding Soviet Naval Developments, 72.

33. The Military Balance 1983-1984, 17. This source is compatible with Jane's in listing number of most classes, though Jane's is more detailed in distinguishing among class variants.

34. Moore, Jane's Fighting Ships 1981-82, 499, 763; The Military Balance 1983-1984, 17; Cracknell, Understanding Soviet Naval Developments, 34, 105.

35. Moore, Jane's Fighting Ships 1981-82, 514-20; The Military Balance 1983-1984, 17; Cracknell, Understanding Soviet Naval Developments, 83.

36. Moore, Jane's Fighting Ships 1981-82, 521.

37. Ibid., 529-30; The Military Balance 1983-1984, 17.

38. Ronald T. Pretty, ed., Jane's Weapon Systems 1982-83 (London: Jane's Publishing Co., 1982), 896; The Military Balance 1983-1984, 17; Cracknell, Understanding Soviet Naval Developments, 84.

39. Pretty, Jane's Weapon Systems 1982-83, 896; The Military Balance 1983-1984, 17; Cracknell, Understanding Soviet Naval Developments, 84.

40. The Military Balance 1983-1984, 17.

41. Ibid., Cracknell, Understanding Soviet Naval Developments, 84.

42. Cracknell, Understanding Soviet Naval Developments, 84.

43. Naval Warfare Publication 1, Strategic Concepts of the US Navy (Washington, D.C.: Office of the Chief of Naval Operations, May 1978), 1-3-2.

44. The Military Balance 1983-1984, 10.

45. Naval Warfare Publication 2, Organization of the US Navy (Washington, D.C.: Office of the Chief of Naval Operations, June 1978), 20-5.

46. Ibid., 20-21, 20-28; The Military Balance 1983-1984, 10.

47. The Military Balance 1983-1984, 8, 10.

48. Organization of the US Navy, 19-18.

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50. Capt John N. Moore, ed., Jane's Fighting Ships 1983-84 (London: Jane's Publishing Co., 1983), 647-55; House Committee on Appropriations, Subcommittee on the Department of Defense, Department of Defense Appropriations for 1984--Part 2, 98th Cong., 1st sess., 1983, 390, 400.

51. Paul Y. Hammond, "Super Carriers and B-36 Bombers: Appropriations, Strategy and Politics," in Harold Stein, ed., American Civil-Military Decisions: A Book of Case Studies (Birmingham, Ala.: University of Alabama Press, 1963), 493-95, 514-37, 546.





## CHAPTER 4

### EVOLUTION OF US AIR FORCE MARITIME OPERATIONS IN WORLD WAR II

Air Force participation in sea surveillance, antisubmarine patrol, and convoy cover was made necessary in World War II by the inability of the Navy to protect trans-Atlantic shipping. The effects of the Washington Naval Conference of 1921-1922, other conferences in the 1920s and 1930s, and budget restrictions in the 1930s, all combined to make the Navy smaller than its leaders thought it should be. At the time of its entry into the war, the United States had enough ships under construction to double the size of the small Navy from 343 ships to 687.<sup>1</sup> The Navy, correctly judging that its primary role would be played in the Pacific, had most of its fleet in the Pacific for several years before Pearl Harbor was attacked. Some ships had been transferred back to the newly-formed Atlantic Fleet earlier in 1941 but the German U-boat threat was too great for the Atlantic Fleet to handle alone. Side controversies over control of the aircraft occurred, but the Army Air Forces supplied planes and pilots for patrol off the US East Coast. Success in the actual bombing of the submarines was elusive, but the U-boats moved the bulk of their operations further into the Caribbean and Atlantic as time went on.

A fairly typical result of the antisubmarine patrol operations was obtained by the I Bomber Command between January and October 1942. In that period, they flew 59,248 operational hours, reported about 200 U-boat sightings, made 81 attacks, sank one submarine, and damaged probably 13 more. Naval aircraft, by then more numerous than at the start, performed well over that number of attacks in the same period.

The I Bomber Command began to provide air cover for convoys when the US coastal convoy system began in May 1942. The Navy's PBY aircraft, with 15 hours' endurance, provided cover for the most distant routes.<sup>2</sup>

Air Force aircraft in World War II attacked submarines by bombing, while the Navy used aircraft better suited to the mission, including torpedo planes. The Air Force used whatever aircraft were available: B-17s, B-18s, B-24s, B-25s, B-34s, A-20s, and A-29s. Some were better for the mission than others, but it took tremendous effort for the Army Air Forces (AAF) to procure the airplanes, develop an organization (eventually the Army Air Forces Antisubmarine Command), develop the tactics, train the men, and fly the missions. The Navy often complained about the way the Army Air Forces was doing the job, calling the tactics ineffective. The two services constantly tried to refine the command structure to fit their ideas on the best way to run the operation.

The Army Air Forces participated in antisubmarine warfare in the Pacific, too, in a smaller way than in the Atlantic. There was no single organization for AAF antisubmarine efforts there, and the efforts were less effective. The Navy carried an even greater share of the burden against Japanese submarines than against the German ones.

The Army Air Forces attacks on enemy surface shipping in World War II were effective to an extent that is little remembered today. An exchange between Congressman Charles Wilson, of Texas, and Chief of Naval Operations Adm James D. Watkins, during the spring 1983 budget hearings, illustrates this point. Wilson stated:

I know during World War II, particularly at Midway, the Army Air Force tried to bomb Japanese ships with the B-17s. They must have dropped 100,000 bombs during World War II and never hit one.<sup>3</sup>

Wilson was generally correct about AAF efforts at Midway, but his statement about overall AAF ship attacks in the Pacific is wholly inaccurate, although apparently no one in either the Navy or the Air Force ever bothered to correct him. For example, in the Battle of the Bismarck Sea, a force of B-17s, with some B-25s and A-20s, sank four Japanese destroyers, seven transport ships, and a special service vessel, Nojima. On 1 March 1943, a convoy of eight destroyers, seven transports, and the Nojima left Rabaul, New Britain, carrying about 9,000 men to reinforce Lae, New Guinea. On that date, two B-17s spotted the convoy. On 2 March, B-17s attacked the convoy, sinking one transport ship and hitting two others. On 3 March, the B-17s again bombed the convoy, sinking four destroyers (the Arashio, Asashio, Tokitsukaze, and Shirayuki), the Nojima, and six remaining transports. The four remaining destroyers recovered about 6,000 survivors. In all, over 3,000 men were lost in the attacks. The greatest long-range effect of the attacks, though, was that the Japanese stopped sending surface ships to resupply and reinforce New Guinea.<sup>4</sup>

Not all AAF attacks were this effective, and an accurate assessment of the effectiveness of AAF ship attacks in World War II is difficult. For virtually every claim of ships sunk, there is a counterclaim of inaccurate reporting. Battleships were reported as carriers, and destroyers as battleships. The results were mixed. The details of the story can be found in Army, Navy, and Army Air Forces histories of World War II. The accounts of the authors and editors conflict at times, as do statistics used later by Air Force and Navy apologists. Some of the basic points of agreement follow.

The Army Air Forces did make a great effort to protect Allied shipping and to sink enemy naval and merchant shipping in both oceans. The bulk of the AAF antisubmarine effort was in the Atlantic, but most antisurface ship attacks were in the Pacific. The Navy almost always requested more aircraft for these missions than the Army Air Forces believed it could provide. Army Air Forces airplanes, ordnance, and pilots were not the best in the world for attacking ships. Naval aircraft had the advantages of superior range and better ordnance, including torpedoes. The Navy crews were trained for the missions, but the entire operation was a new experience for the AAF crews, who were trained for high-altitude bombing missions against immobile land targets. The ships moved too fast for the usual high-altitude bombing runs, so lower-altitude attacks were made. Skip-bombing techniques were developed. Fuzing options on the bombs were changed as pilots experimented to find the most effective ways to damage ships. They discovered that if a bomb hit the water close aboard the ship, delayed until it was below the waterline, then exploded, heavy damage could be inflicted. A direct hit was not necessary, nor was it even the most effective means of damaging a ship. Land-based air, both Navy and Army Air Forces, was responsible for a large percentage of German and Japanese submarine and surface ship losses in World War II. It is unlikely that any Army Air Forces crew sank any ship larger than a destroyer during World War II.

The B-29 mine-laying operation of the 313th Bomb Wing against Japanese home waters from March to August 1945 was the most effective use of Air Force aircraft and crews in any maritime operations anytime,

anywhere. B-29s from other AAF commands had laid a small number of mines in southeast Asian harbors from August 1944 to March 1945 for tactical purposes, but the 313th Wing operation was the first designed to have the strategic consequence of destroying the enemy's means and will to fight. At the time the mining was proposed, the 313th Wing, on Tinian, like the rest of the Army Air Forces, had other missions that AAF generals considered much more important. The wing participated in strategic bombing strikes on Japan at the same time that it mined Japan.

US Navy submarines had taken a heavy toll of Japanese naval and merchant ships by the time the 313th Wing began mining Japanese waters. Traffic to the Pacific had been closed off for the most part. Most Japanese traffic was by then confined to the Yellow Sea, Tsushima Strait, and Sea of Japan. The bulk of Japanese shipping departed ports on Honshu, Kyushu, and Shikoku islands and went through the Shimonoseki Strait. Because of the effectiveness of the US Navy submarines in patrolling the waters around Japan, the Japanese could afford to use only a small number of their usual ocean shipping routes.<sup>5</sup>

Neither the Navy nor the Army Air Forces had had any great interest in mining for strategic offensive purposes earlier in the war. The Navy was committing its resources to the drive across the central Pacific, and the Army Air Forces wanted to use its heavy bombers against the Japanese home islands as soon as bases could be had within range of Japan. Later in the war, Admiral Nimitz and his staff in Hawaii joined Navy headquarters in urging the use of B-29s for mining, to begin in January 1945. Gen Henry H. Arnold, commanding general of the Army Air Forces, finally relented but adjusted the starting date to about 1 April.<sup>6</sup>

The mines used were primarily 1,000- and 2,000-pound acoustic and magnetic mines that were dropped by parachute. The operation planners, led by Maj Gen Curtis E. LeMay, reasoned that the possibility existed of the mines drifting if dropped from high altitude. They decided low altitude night runs would be best because of the enemy threat in daylight. Shimonoseki Strait was the most frequent target of the whole campaign. On the nights of 27 and 28 March 1945, the wing dropped 1,070 tons of mines. The supply of mines was always tight, and it seemed there was almost never enough time to prepare the mines for the drops. In April, only 288 tons were dropped. In addition to the strait, the harbors of Kobe and Osaka and harbors along the Sea of Japan were mined.

Postwar examination of records revealed that 18 ships, of 30,917 tons, sank or were permanently disabled in the Shimonoseki Strait by 27 April. Most of the mine drops were good ones. Most minefields were sown correctly in the places the Navy had indicated they should be. The Japanese found countermeasures difficult and of little effect. No large warship passed through the strait after 27 March, though some individual merchant ship captains did so, at great risk. In May, 85 ships of 213,000 tons, representing about 9 percent of the Japanese merchant fleet, were sunk by mines laid by the bombers.<sup>7</sup>

From 7 June to 3 July, in 404 B-29 sorties, 3,542 mines were dropped in 10 minefields. Because the Japanese had gained some insight into making acoustic and magnetic mines less effective, the B-29s began dropping more sophisticated pressure-sensitive mines in the Shimonoseki Strait in June. Flying from captured bases further north now, they seeded Korean harbors with acoustic and magnetic mines in June. The

June toll of 313th Bomb Wing mines was 83 ships (163,000 tons) sunk or disabled, over half of them in Shimonoseki Strait. US Navy submarines had moved into the Sea of Japan, avoiding Japanese-laid protective mines in the Tsushima Strait, and sank 92,000 tons in June. American aircraft attacked and sank 56,000 tons in that month. Third Fleet carrier aircraft were devastating the already-reduced merchant fleet in the Tsugaru Strait. The last of the Pacific ports on Honshu closed by 27 June. Army Air Forces and Marine Corps aircraft from Okinawa were attacking the remaining shipping from Kyushu to China in the East China Sea.<sup>8</sup>

From 8 July to 14 August, 445 B-29 sorties dropped 3,528 mines in 17 fields. Six B-29s were lost in this period, not all to enemy action. This was the heaviest loss of the entire campaign. Thirty ships got through the Shimonoseki Strait from 1 to 14 August, and 198,000 tons were lost to mines in July. The total mining effort of the 313th Bomb Wing from 27 March to 14 August involved 1,528 sorties during which 12,053 mines were laid. Nine B-29s on mining sorties were lost to enemy action. The enemy naval and merchant fleets had contracted in size and in scope of operations due to US naval actions before the operation began, but this was the heaviest and most successful aerial mining campaign ever conducted. Admiral Nimitz praised the "phenomenal results" of this campaign that the Army Air Forces had undertaken so reluctantly.<sup>9</sup>

#### US Air Force Maritime Operations, 1971 to the 1980s

After World War II, the Air Force no longer had any significant interest in maritime operations. Air Force leaders saw the postwar



defense unification process as the last part of the struggle for air power to gain its rightful status as the equal of land power and sea power. Naval leaders saw unification as an effort by the Air Force to gain control of Navy and Marine Corps aviation. Although the executive branch and Congress made compromises, unification was bitterly contested. The controversy over roles and missions and the arguments about carriers and bombers helped drive a deep wedge between the services. The Navy continued to show great interest in the interdiction mission, which in 1948 was redefined as a Navy collateral function. Carrier air operations in the interdiction campaigns in Korea and Vietnam seemed as normal to the Navy as land-based interdiction seemed to the Air Force. The Air Force, however, lost interest in its collateral functions for some time after World War II. Air Force RB-47s and KC-97s participated briefly in sea surveillance flights during the naval quarantine of Cuba in 1962; however, after the crisis passed, the Air Force again lost interest in its collateral functions.

In the early 1970s, the Air Force and Navy began a dialogue aimed at renewing Air Force participation in maritime operations. Aerial mine laying, ship attack, and sea surveillance were the three missions that were most often emphasized. Also, by the middle 1970s, both services began to discuss Air Force capabilities in antiair warfare--or fleet air defense.

This section of the study presents basic information on several mission areas, discusses recent Air Force activity in each area, and describes Air Force and Navy proposals for future Air Force participation in maritime operations.

## Mine Warfare

Mine warfare includes mine laying and mine sweeping. Mine sweeping involves the removal or destruction of mines. It may be either a comprehensive effort after hostilities have ended or a limited sweep of areas of immediate concern during wartime military operations. The US Navy now has about 25 mine-sweeping helicopters and just over 20 ocean minesweepers--far fewer than in World War II and the Korean War.

Mine laying is of much more interest to the Air Force than mine sweeping. Mine laying may be done for offensive, defensive, or protective purposes. Offensive mining, as performed against Japan in World War II, is done in the enemy's home waters with the objective of preventing the movement of enemy ships out of its home waters. Offensive mining denies the enemy the freedom to conduct ocean commerce and naval warfare. Defensive mining involves placing mines in the straits of international waters to deny enemy fleets access to large bodies of water. Protective mining is done in friendly territorial waters to prevent access of enemy ships to certain harbors and coastlines, thus denying the enemy an opportunity to interdict friendly shipping.<sup>10</sup> Certain lanes and areas may be kept clear of protective minefields in order to allow friendly ships to get out of port.

Mines may be laid by aircraft, surface ships, or submarines. The US Navy no longer has ships designed specifically to deliver mines. During the Vietnam War, some surface ships did lay mines in the coastal waters of Vietnam, but by far the largest mining effort during that war was the mining of the harbor at Haiphong in May 1972. The mining of this harbor was conducted by US Navy and Marine aircraft flying off the

Coral Sea.<sup>11</sup> Many aircraft have good capabilities in range, speed, and payload that are required for offensive mining.

Mines can be positioned on the surface or on the bottom of a body of water, or moored at a set depth below the surface. Many mines can be effectively used against submarines. Explosions are triggered by acoustic, pressure, seismic, magnetic, or contact devices, or a combination of them. Mines of the service destructor series are carried easily by fighters and bombers without aircraft modification. The destructor series consists of Mark 80 series general purpose low-drag bombs whose fuzing is modified. Mark 36 destructor mines are modified 500-pound bombs; Mark 40 mines, 1,000 pounds; and Mark 41 mines, 2,000 pounds. Mark 36 and Mark 40 mines can operate in water of depths up to 300 feet. Although the Navy has several other series of aircraft-laid bottom mines,<sup>12</sup> they are less easily adapted to Air Force use than the destructor series.

The US Navy recently put the Captor mine into service.<sup>13</sup> The Captor consists of a Mark 46 torpedo enclosed in a metal casing. The Captor may be dropped by an aircraft to lie anchored in deep water until it detects a passing submarine, at which time the torpedo is fired. The torpedo is guided by an acoustic homing device.

Mine warfare has been a neglected aspect of naval warfare for some time now. Perhaps the neglect stems in part from the fact that those who perform the mine laying almost never see the results, as Gen Curtis E. LeMay indicated in World War II.<sup>14</sup> Also, mines of the past were products of low technology rather than those of the advanced technology of which the military seems so fond today. Mining is not as popular as other forms of warfare in which the results are more easily

seen. However, mining has the great advantage of being a very low-cost means of keeping an enemy off balance. Uncertainty exists in an enemy's mind when he suspects that certain waters have been mined. The enemy cannot be sure if mines have been used, where they have been positioned, or how extensively they have been used. When harbors or straits are mined, the enemy must devote resources to mine sweeping out of proportion to the resources required to lay the mines. Merchant shipping companies, enemy navies, and captains of individual ships must decide whether the risk of going through the minefields is worth the benefit.

The US Navy has committed very little of its resources to mine warfare since 1946. The discovery of mines in Korean harbors in September 1951 shook the Navy into a hasty assembly of mine sweeping forces. The unopposed landing of the US Army X Corps at Wonsan was delayed from 20 October to 26 October 1951 because the mine sweeping of that harbor took longer than expected.<sup>15</sup> VAdm C. Turner Joy, commander of US Naval Forces Far East, said later, "The main lesson of the Wonsan operation is that no so-called subsidiary branch of the naval service, such as mine warfare, should ever be neglected or relegated to a minor role in the future."<sup>16</sup> There were more minesweepers available to Admiral Joy in the area of Korea and Japan than the US Navy has worldwide today.

The US Navy established the Mine Warfare Command at Charleston, South Carolina, in the late 1970s as a result of a renewed interest in mine warfare. The new command has helped focus attention on this long-neglected mission. The Navy has added more helicopters and a new class of mine countermeasure ships to its building programs for the

1980s. Detailed bottom surveys of shipping routes are being conducted. The Air Force is sending officers through mine warfare courses at Charleston, and the Strategic Air Command has assigned an officer to the headquarters staff there.

The chief of staff of the Air Force and the chief of naval operations signed agreements on B-52 mine laying in 1971, 1974, and 1979. The agreements represent part of a joint effort to get a better aerial mine-laying capability, not just for the Air Force but for the entire US military force. Many naval aircraft can lay mines. Although several Air Force fighters could lay destructor mines, the B-52 bomber is the only type of aircraft that the Air Force has committed to the task in recent years. B-52 crews have occasionally practiced mine laying in exercises since the mid-1970s. Just as in World War II, the Navy provides the mines to the Air Force.

#### Antisurface Warfare

Aerial attacks on ships have interested Air Force leaders since World War I, but World War II was the only war in which Air Force air crews bombed ships to a significant extent. The Air Force was not required to destroy enemy ships in the Korean and Vietnam wars because there were no great enemy fleets in those two wars.

Ship attack missions are included in the mission that the US Navy now calls antisurface warfare (ASUW). The objective in attacking a ship is to make it ineffective in battle; this does not mean that the ship must be sunk. Sinking a ship has the advantage of making the ship inoperative permanently. Major parts of a ship can be damaged heavily enough to put the ship out of action for a time. A firepower "kill" can be scored by doing significant damage to the radar that directs the

on-board guns and missiles. Damage to the rudder or propellers may leave the ship helpless to the degree that it must be towed into port. In each situation, a ship is vulnerable to an attack that will sink it.

The Air Force has several weapons in its inventory that could be used to sink or damage ships. The greatest problem that prevents these weapons from being put to use is that they must be delivered from relatively short ranges if they are to hit the designated target. Short-range attacks on well-armed Soviet surface action groups (SAGs) would result in high rates of aircraft attrition. If the attacking aircraft are armed with long-range (standoff) weapons, the probability of attrition would be much lower. Most Soviet surface action groups described earlier in this study have surface-to-air missiles (SAMs) with maximum ranges of 20 to 30 nautical miles. The maximum range of missiles depends on several variables, some of which can be controlled by the attacking aircraft.

The Harpoon antiship missile, GBU-15 glide bomb, Shrike antiradiation missile, and Maverick missile are only a few of the many standoff weapons that the Air Force and Navy have developed for different kinds of surface targets. Harpoon has by far the longest range of these standoff weapons.

Jane's Fighting Ships 1983-84 and Jane's Weapon Systems 1982-83 give maximum ranges of the air-launched Harpoon that vary from 60 to 120 nautical miles. Most sources cite a 60 nautical mile range.<sup>17</sup>

In the early 1970s, Adm Elmo R. Zumwalt, chief of naval operations, asked the Air Force to install Harpoon missiles on B-52 bombers.<sup>18</sup>

The Air Force and Navy agreed in 1975 that the Air Force should train aircrews in ship attack, sea surveillance, and mine laying.<sup>19</sup> The Navy began testing Harpoon missiles in 1972 and accepted them for operational use in 1977.<sup>20</sup> The Air Force tested Harpoons in firings from B-52Gs in the spring of 1983. The Air Force Magazine has stated that "B-52s at Loring AFB, Maine, achieved limited operational capability with the antiship Harpoon missile" in 1983.<sup>21</sup> The Air Force asked for \$40 million in fiscal year 1985 to pay for 85 Harpoon missiles. This is the Air Force's first request for money to procure Harpoons.<sup>22</sup>

In presenting its fiscal year 1984 budget and program proposals to Congress, the Air Force said that the B-1B bomber "will be able to perform the missions of conventional bomber and cruise missile carrier."<sup>23</sup> During the testimony that followed, Congressman Charles Wilson asked the Air Force chief of staff whether maritime applications would be one of the major uses of the B-1B after the Stealth bomber enters the inventory. Gen Charles A. Gabriel, Air Force chief of staff, said, "I don't think I would call it major. We consider it not a primary mission." The congressman had earlier asked the general whether he would commit suicide if some of the B-1Bs were given to the Navy. General Gabriel replied that he wouldn't kill himself, but "I would not understand it."<sup>24</sup> Adm James D. Watkins, chief of naval operations, similarly resisted suggestions that the Navy get some B-1Bs.<sup>25</sup> No one in a position of authority has stated flatly whether the B-1B will have a maritime mission after the B-52 is retired from service.

Similarly, no one has stated, publicly and authoritatively, what role Air Force fighters will have in ship attack missions. Many people

have assumed that no long-range antiship missiles will be procured for Air Force fighter aircraft. However, Air Force officers and others have written studies on ship attack missions using other weapons. Maj Robert J. Eagan and Maj Edward J. Rasimus wrote a research report, Sink the Kiev: A Study of Anti-Ship Tactics, in 1978. The full report is classified. The unclassified abstract states:

This study examines problems associated with attack of a heavily defended enemy vessel. Enemy defenses, counter-measures and tactics are described for a squadron-sized attack with equipment available throughout the tactical air forces in 1978. An attack plan with high probability of success is outlined against the Soviet antisubmarine cruiser Kiev. Primary emphasis is on development of the attack plan rather than specific tactics. The study concludes that the USAF is capable of achieving success in the collateral function but increased emphasis is required in training and dissemination of tactics information.<sup>26</sup>

Many other excellent studies have been written on similar topics. However, it is unlikely that such studies have been widely distributed in the tactical air forces.

The Soviet and US navies continue to enlarge the postulated sea battle area by installing missiles of longer range than those available in the past. If the Air Force chooses to have its fighter aircraft attack ships, it will have to acquire weapons capable of ensuring an acceptably low rate of attrition. The use of aircraft to drop general purpose bombs or cluster bombs on ships may be compared to the Japanese kamikaze attacks performed late in World War II. Although the kamikazes were ineffective in stopping the Allied advance, the results were spectacular on occasion. Just as no kamikaze who succeeded in performing his mission returned home, ship attacks at close range today might succeed occasionally, but it is a desperate tactic.



Maj David L. Vesely, a student at the Air Command and Staff College, analyzed four large Air Force maritime exercises. An unclassified portion of his 1980 study states:

One central theme was obvious in all exercise reports--conventional munitions are not the way to sink or damage ships. Even a precise bombing platform such as the F-111 would have extreme difficulty striking a moving, well armored target without unrealistic exposure to concentrated, accurate defensive firepower. Conversely, on exercises where terminally guided munitions were employed, reports were quite favorable. One significant test of the Maverick system was conducted on a maritime exercise in 1979, adding substance to the case for guided munitions in the antiship role.<sup>27</sup>

The authors of Sink the Kiev, both former F-4 crewmembers,<sup>28</sup> concluded that "increased emphasis is required in training."<sup>29</sup> The secretaries and military chiefs of the Navy and Air Force signed a second major agreement in 1982 in which they agreed to:

Increase cooperation in improving tactical weapons effectiveness.

Increase inter-service use of existing tactical weapons ranges and facilities for training and exercising.

[Participate in] Joint efforts to develop, operate and use a multi-service War-at-Sea range located in the vicinity of South Florida.<sup>30</sup>

The War-at-Sea range has not appeared in the programs submitted to Congress by the services.

### Sea Surveillance

A great flurry of interest in sea surveillance followed the signing of the 1975 Air Force-Navy agreement. The major commands of the Air Force, with little specific guidance from the Air Staff, assumed the mission with great fanfare. Fighter and bomber crews alike began

training programs, while members of the Air Staff studied the results of the commands' programs. Students at service colleges wrote papers on the feasibility of using various aircraft in sea surveillance missions. Surveillance was a frequently discussed subject in Air Force publications in 1975 and 1976.

The most consistent and effective Air Force program of sea surveillance (and certainly the best publicized) has been SAC's Busy Observer program. The Air Staff and SAC headquarters conducted several tests and studies before the B-52s began flying surveillance missions on a regular basis.

The Busy Observer program consists of B-52 missions flown in two phases. In Phase I, B-52s are usually flown in formations of two bombers. Crew members use radar and electronic equipment from high altitudes to search for US Navy ship formations. Once the battle group is found, the crews usually drop to a lower altitude to allow visual identification and precise location of each ship. Pictures taken by aircraft-mounted and 35-mm hard-operated cameras are used later to verify ship identification. In Phase II, sorties are flown against Soviet surface action groups.

Most of the Busy Observer sorties that are flown in the Pacific are flown by crews from Andersen AFB, Guam. Each of the Fifteenth Air Force's eight bomb wings flies about six missions, or 12 sorties, each year. Several of Eighth Air Force's wings in the eastern United States fly missions over the Atlantic.<sup>31</sup>

Now that the Strategic Air Command has taken the last of its B-52Ds out of service, the bomber force consists of the longer-range B-52G and

B-52H. Equipment used by these two models for sea surveillance includes an inertial navigation system, an electro-optical viewing system with low-light television and infrared modes, a video recorder, radar, and electronic warfare equipment.<sup>32</sup>

A 1976 study of SAC's sea surveillance capability concluded that "it would be fiscally irresponsible to train the entire SAC bomber force for a collateral function."<sup>33</sup> Any flying hours allocated to training for a collateral mission cannot be used for primary function training. The study suggested that Strategic Air Command should concentrate all its surveillance training on very few crews at each of six bases. It recommended that B-52s be used for surveillance missions over the Pacific from Andersen AFB, Guam, Fairchild AFB, Washington, and Mather AFB, California; over the Atlantic Ocean and Hudson Bay from Loring AFB, Maine; over Hudson Bay from K. I. Sawyer AFB, Michigan; and over the Atlantic and Caribbean from Robins AFB, Georgia.<sup>34</sup>

The B-52 is not the only aircraft the Air Force has used for sea surveillance in recent years. The FB-111 was tested for sea surveillance in Project Busy Harbor in 1974, but that aircraft's lack of long-range capability limits its usefulness for surveillance.<sup>35</sup> F-111s from Korat Royal Thai Air Force Base, Thailand, flew in support of the recovery of the Mayaguez in May 1975. The F-111s performed sea surveillance and attacked small boats.<sup>36</sup> The radius of action for an F-111, unrefueled, is 1,100 nautical miles, compared to a range for the B-52 (refueled) limited only by crew endurance.<sup>37</sup>

RF-4C reconnaissance aircraft, with about a 500 nautical mile range, have also been used for sea surveillance. Tactical electronic

reconnaissance (TEREC) sensors can be used to locate electronic emitters, and 24 RF-4Cs are equipped with TERC.<sup>38</sup> A 1982 paper prepared by Air Force headquarters states, "TEREC has proven [a] capability to identify and locate maritime targets during various Mediterranean exercises."<sup>39</sup> In 1975 the Air Force chief of staff stated that the F-111 and RF-4 had demonstrated in exercises an "inherent capability" to perform sea surveillance missions.<sup>40</sup>

Besides the aircraft previously mentioned, the Air Force has several other aircraft that could be used for sea surveillance, if required. They are the SR-71s, U-2s, TR-1s, RC-135s, EF-111As, and E-3As. Although the US government generally does not comment on reconnaissance activities, the press frequently speculates on how much these aircraft are used and for what purposes.

#### Antiair Warfare

The 1975 Air Force-Navy agreement on maritime air operations briefly mentioned attacks on "air units." In the September 1982 memorandum, antiair warfare (AAW) was called "the mission area in which Air Force capabilities can provide the most immediate gains to maritime operations."<sup>41</sup> The basic elements of antiair warfare are the same regardless of whose airplanes and crews are being used, and antiair warfare is one of the primary missions of the Air Force. The Air Force and Navy have worked to integrate the F-15 and E-3A airborne warning and control system (AWACS) aircraft into the operations of carrier battle groups. During the 1983 budget hearings, the Air Force chief of staff said, "The F-15s and the AWACS will give cover to the Navy wherever they need it. We are working those plans. We practice it in the Pacific and in the Atlantic all the time now and in the Med and Indian Ocean."<sup>42</sup>

A typical carrier battle group might consist of one carrier, six to eight cruisers and destroyers, and an attack submarine. The process of introducing F-15s and E-3As into the group's operations is complicated by the fact that Air Force aircraft don't always match the ships in communications capabilities. For years the Air Force and Navy have been working on data link systems that will be compatible and secure. The concepts of the two services on the best ways to do that haven't always been the same. Also, the uncertainty of ship deployment schedules and training cycles makes the problem more complex. The tactics, training procedures, and communication systems of the two services must be reconciled if the aircraft and crews of the Air Force are to be used effectively with carrier battle groups.

The US Navy now has task groups with no organic air power. The New Jersey and Iowa have been reactivated recently, and the Missouri and Wisconsin will follow at intervals of one or two years. These battleships, each with nine 16-inch guns, will provide naval gunfire support for troops on shore and eventually will be able to engage other surface combatants with Tomahawk and Harpoon missiles if the need arises. They can also be used in lieu of carrier battle groups to demonstrate presence in "show the flag" missions. The best antiair warfare capability for battleships will be the destroyers and cruisers that will complete the surface action groups formed around the battleships.

These battleships were commissioned during World War II and were active in the Pacific in that war. The current reactivation program was initiated by the Reagan administration in 1981 as a part of the effort

to get a 600-ship Navy. The tremendous cost of this program, including future upgrade of antiship and antiair capabilities, will probably result in a long period of active service for the battleships. Secretary of the Navy John F. Lehman, Jr, said in congressional testimony, "The battleship has got to have air cover from either a carrier or, for instance in the Caribbean, Air Force cover with AWACS and F-15s."<sup>43</sup>

### Antisubmarine Warfare

Antisubmarine warfare (ASW), a mission the Army Air Forces performed in World War II, was conspicuous by its absence in the 1975 and 1982 Air Force-Navy maritime agreements. Submarines have changed dramatically since the end of World War II. Submarines are much quieter because of changes in propellers, hulls, and engines. Nuclear power has given submarines the ability to remain submerged for extended periods. Both the United States and the Soviet Union have a great number of nuclear-powered submarines (SSBNs and SSNs). The SSBNs and SSNs do not require refueling at frequent intervals, as do diesel-electric boats.

Admiral Watkins has stated that the oceans are growing "more opaque." By this, he means that submarines are becoming harder to detect and locate. Equipment for detecting submarines has advanced substantially in the last three or four decades, but the technology to make them run quieter, at greater depths, faster, and for longer periods has advanced even more. Admiral Watkins told Congress that "our two relative knowledges of the sea are driving us back into the background noise levels of the ocean. It is going to be extremely difficult to find each other no matter what kind of system we have."<sup>44</sup> Since

submarines will be able to operate under the ice packs more often and for longer periods in the coming years, detection will become even more difficult. Both countries have aircraft, ships, and submarines full of very specialized, sophisticated equipment designed to detect submarines. US Air Force aircraft can drop mines, and perhaps even sonobuoys, in attempts to negate the submarine threat, but other serious ASW missions would probably require enormous amounts of money.

#### Additional Joint Maritime Missions

In September 1982 the Air Force and Navy agreed to look into the potential for Air Force contributions in several other areas: indications and warning; command, control, and communications; electronic warfare; aerial delivery of Navy special warfare forces; and air refueling.

Some progress has been made in some of these areas in recent years. In air refueling, for example, the KC-10 is equipped to refuel, in sequence, both Air Force and Navy aircraft. Air Force aircraft generally use the boom refueling system, but Navy aircraft are equipped for probe and drogue refueling. The problem of incompatibility of most KC-135s with Navy aircraft has been partially resolved with the use of the KC-10. Problems will continue to exist, though, because there aren't enough KC-10s to provide this service for all aircraft.

The Military Airlift Command (MAC) can deploy Navy special warfare forces (SEAL teams) into combat areas. The MC-130 Combat Talon aircraft is equipped to land on short, unimproved strips in day or night, or it may perform airdrops of the SEAL (sea-air-land) teams. The MC-130 can also drop small rubber boats and other equipment for use by SEAL teams.

Some MAC HC-53 and UH-1 helicopter crews are qualified for shipboard operations. Training is difficult, however, since Navy ships are not always available for this type of training.<sup>45</sup>

#### The Structure for Implementation of the 1982 Agreements

The Air Force and Navy have established 10 working committees in Washington to work on programs that were affected by the 1982 memoranda of agreement. A steering group, composed of several flag officers from each service, guides and monitors the committees. A small coordinating committee, under the steering group, consolidates the efforts of the 10 working committees. Each working committee has Air Force and Navy cochairmen and a Marine Corps representative. The committees work on programs covering such issues as command, control, and communications, and electronic warfare; joint exercising; training and personnel initiatives; tactical ranges; tactical doctrine; surveillance, indications and warning; aerial refueling; research, development, testing, and evaluation; intelligence; and the B-52 and Harpoon missile.

The committees gather information on present and proposed programs for Air Force involvement in maritime operations. They analyze forces and programs to determine which ones can be adapted for maritime operations. The Air Force has spent very little money (in Pentagon terms) on maritime operations. The services want to expand programs that will have the greatest impact for the smallest cost.

Air Force headquarters has provided the major commands little definite guidance on where the Air Force as a whole should go in maritime operations. Generally, the Air Staff collects bits and pieces of information on what the commands are doing. Since 1982, the Air



Staff has held two meetings on maritime operations with representatives from most of the major flying commands. Their discussions covered each command's program for training and employment in maritime operations. Coordinating worldwide efforts in a new (to some), major nontraditional field of concern is proving to be difficult.

## NOTES

### CHAPTER 4

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## CHAPTER 5

### COMMAND ARRANGEMENTS FOR JOINT MARITIME OPERATIONS

The subject of command and control of air power is a topic on which all US military services have differed almost since the Army and Navy began flying heavier-than-air craft. Under current policies, commanders control Air Force assets that are used in maritime operations within the same unified command structure which exists for all other US military operations. The US unified command arrangement, the tactical air control system, and other command and control systems have evolved during a time in which rapid changes in military strategies, forces, and equipment have made older systems obsolete. The command and control arrangements that exist today are the best ones on which earnest, dedicated, strong-willed men could agree. Command structures that exist today are the results of the thinking of presidents, secretaries of defense and of the services, members of Congress, members of the Joint Chiefs of Staff (JCS), and military commanders, aided by countless others. However, commanders within the four US military services have often found that their personal and professional relationships were more important to the proper command of forces than were the arrangements written on paper.

US combat forces have been under unified command in war and peace since 1942. JCS Publication 2, Unified Action Armed Forces, has long adhered to the principle that unity of effort is provided by the unified commanders. The unified commanders are senior officers who control US forces of all services in their theaters of operations. The largest unified commands are in the Pacific, Atlantic, and European theaters

(USPACOM, USLANTCOM, and USEUCOM). The Pacific and Atlantic commanders in chief (CINCs) have been Navy admirals since World War II; the US European commander in chief, with one exception in the 1950s, has been an Army general. At present there are three other US unified commands. They are the US Southern Command (USSOUTHCOM) headquartered at Quarry Heights, Panama; the US Central Command (USCENTCOM) at MacDill AFB, Florida; and the US Readiness Command (USREDCOM) also at MacDill AFB.<sup>1</sup> The unified commanders are responsible to the president and the secretary of defense for employment of US combat forces. The unified commanders correspond with the president and the secretary of defense, who are known collectively as the national command authorities (NCA), through the US Joint Chiefs of Staff, who have no direct or independent command authority. The unified commanders exist to ensure unity of effort among the forces assigned to them. Each of the unified commands is divided into components that consist of Army, Navy, and Air Force forces.<sup>2</sup> Most of these component commands also have a separate identity as major commands of the military services.<sup>3</sup>

The doctrines of the services differ on how best to organize forces under unified command.<sup>4</sup> JCS Publication 2, Unified Action Armed Forces, establishes service components as the preferred way to subdivide the unified commands. The Joint Chiefs of Staff have emphasized, however, that the unified commanders "do have the authority to organize their forces as they determine to be most effective for implementation of their operational plans, to include exercising."<sup>5</sup>

Under current JCS policy, command for unilateral US combat operations may be organized according to one of three methods: (1) the

unified commander will command forces through the component commanders in theater-wide operations; (2) a subordinate unified commander will command forces in a smaller area; or (3) a joint task force (JTF) may be activated to include all US forces in a small conflict of short duration.<sup>6</sup> In the Korean War, command of US forces was virtually indistinguishable from command of the combined force of the United Nations, and that command was organized under the first scheme. A joint task force, the third method, was used in the 1983 Grenada operation. Command arrangements for US forces during the Vietnam War combined the first and second methods. A brief sketch of those arrangements provides some good examples of how the services' doctrines conflicted and are relevant to command relations for the employment of Air Force air power in joint maritime operations.

Command relations in Vietnam were highly controversial. Command of the overall American military effort in Southeast Asia was the responsibility of the commander in chief, Pacific (CINCPAC), who was from 1964 to 1968 Adm U. S. Grant Sharp. During the same period, Gen William C. Westmoreland was commander of the US Military Assistance Command, Vietnam (COMUSMACV), a subordinate unified command of the Pacific Command. As COMUSMACV, General Westmoreland commanded all US forces in South Vietnam. He also commanded the Army component of MACV, beginning in 1965. In 1966 the Seventh Air Force replaced the 2d Air Division as the Air Force component of MACV. Gen William W. Momyer commanded the Seventh Air Force from 1966 to 1968. For all operations outside South Vietnam (flown mostly from Thai bases), General Momyer reported to the commander in chief, Pacific Air Forces (CINCPACAF), not to COMUSMACV. Naval Forces, Vietnam (NAVFORV) was the Navy component of



MACV, and this command was responsible primarily for patrolling and controlling the coastline and rivers of Vietnam and for naval construction. The Navy's part in the air campaign was conducted by Task Force 77, which was responsible to the commander of the Seventh Fleet, who reported to the commander in chief, Pacific Fleet (CINCPACFLT). CINCPACFLT, like CINCPACAF, reported to CINCPAC Admiral Sharp. Most Marine units in South Vietnam were in the III Marine Amphibious Force (III MAF) in the northern provinces of South Vietnam. The III MAF commander was responsible directly to COMUSMACV General Westmoreland.<sup>7</sup> General Westmoreland had once proposed a combined US-Republic of Vietnam command, but he soon dropped the proposal because of Vietnamese sensitivity to it. (The unilateral American command in Thailand had earlier been separated from MACV because of Thai complaints over control of USMACTHAI forces emanating from Saigon.) General Westmoreland did, however, have control over other allied forces in South Vietnam.<sup>8</sup>

Ground forces in South Vietnam were divided geographically into corps tactical zones, later called military regions, whose designations were derived from the Army of the Republic of Vietnam (ARVN, the South Vietnamese army) corps that operated in each. The III MAF was in the I Corps Tactical Zone (I CTZ or I Corps), the US Army's I Field Force was in the II CTZ, and the II Field Force was in the III CTZ. By 1968 there were three US Army divisions in I Corps subordinate to the III MAF commander. The United States did not have a major field headquarters in the IV CTZ.

The map of North Vietnam was similarly divided into regions called route packages. Route packages I (the southernmost), V, and VI A were

the primary operating areas for Seventh Air Force strikes in North Vietnam. Task Force 77 bombed targets in route packages (RP) II, III, IV, and VI B.<sup>9</sup>

Admiral Sharp has written that each "command planning flights into another command's assigned area was expected to advise and coordinate to avoid interference with scheduled flights."<sup>10</sup> Admiral Sharp's statement raises questions that doctrine writers have asked for years--and tried to answer: Does a unified commander provide sufficient unity of effort in his theater? Should his components be arranged by military service, as they are now, or functionally, as the Air Force proposes? Are cooperation and coordination of air resources sufficient to ensure maximum combat effectiveness?

US Air Force doctrine states that unity of effort should be provided by an air component commander (also known at times as a single air manager or a single air commander) who alone can take advantage of the flexibility and responsiveness of air power.<sup>11</sup> By this, the Air Force means that all air forces from all services must be placed under an air component commander. This air component commander (ACC) could presumably be an airman from any of the four services. Within his area of operations, the ACC would exercise control over all US air forces involved in sustained operations over land, according to most Air Force statements. He would not control Navy aircraft when they are used in naval campaigns. Nor would he control Marine Corps aircraft when they are used in naval campaigns or in the seizure or defense of advanced naval bases. However, the air component commander would control (that is, have the authority to task) air forces from those two services when they are conducting sustained operations ashore.

Air Force arguments in favor of functional components have been based on three major beliefs. First, the use of functional components (with the single air commander having control over all air assets in the theater) has been shown to be a more effective war-winning method than has the use of service components in World War II, the Korean War, and the Vietnam War. Second, the use of functional components would ease the transition from joint to combined operations because most combined commands have functional components. Third, the current use of service components in US unified commands violates the intent of President Dwight D. Eisenhower in asking for a better unified command system in the Department of Defense Reorganization Act of 1958.<sup>12</sup> The main thing that Air Force proponents of functional components want is centralization of control of all air power in a theater (involved in sustained operations ashore) under a single air commander for the more effective employment of air power.

Others have powerful arguments against such command arrangements. First, taking Navy air out from the control of fleet and task force commanders reduces their flexibility and unity of command, preventing them from having full control over the assets that enable them to do their jobs. They should have control over the naval assets, including naval air, that accomplish naval objectives. Second, breaking up the Marine air-ground team, which has been so successful in uniservice employment over the years, likewise reduces the responsiveness of Marine tactical air power and forces Marine ground units to accept unbearable delays in getting close air support when needed. The Marine tactical air control system is in place and works well in support of Marine

ground units. Third, coordination of air strikes among various air commanders has worked well when commanders wanted to cooperate. The single air manager concept did not make, and would not have made, a decisive difference in Vietnam. Fourth, JCS Publication 2, Unified Action Armed Forces, represents the agreed position of the Joint Chiefs of Staff that unified commands employ forces through service components, not functional components. This position is consistent with Department of Defense Directive 5100.1, Functions of the Department of Defense and its Major Components, and with the vague wording of the law that came out of Congress as the Department of Defense Reorganization Act of 1958. JCS Publication 2 accords with the doctrinal beliefs of the Navy and the Marine Corps as set forth in Naval Warfare Publication (NWP) 2, Organization of the US Navy, and US Marine Corps Operational Handbook Number 5-1.1, Command and Control of USMC TACAIR. Fifth, the Air Force has not applied the principle of centralized control even with its own assets. For example, Strategic Air Command (SAC) bombers flew strike missions in the Rolling Thunder and Linebacker II campaigns under the full operational control of CINCSAC, a specified commander, not of CINCPAC, the theater unified commander.<sup>13</sup>

In early 1968 General Westmoreland heard of the "disturbing . . . failure of the marines to provide tactical air support for the 1st Cavalry Division" in I Corps<sup>14</sup> and decided to "move immediately" to make General Momyer his single air manager.<sup>15</sup> While doctrinal disputes raged in Vietnam, Honolulu, and Washington over this change, representatives from the Seventh Air Force and the III MAF fashioned an agreement on linking the Air Force and Marine control networks.<sup>16</sup> General

Westmoreland sent an officer to brief Admiral Sharp on the arrangement, which the admiral had opposed, and he gained CINCPAC's endorsement. The JCS was unable to agree on the issue. The Army, Navy, and Marine Corps chiefs opposed the idea, but the chairman and Air Force chief favored the single manager system.<sup>17</sup> Deputy Secretary of Defense Paul Nitze upheld the appointment of General Momyer as the single air manager because he presumed General Westmoreland, the commander on the scene, to be the best judge of the situation. Nitze stated, however, that the decision should not be used as a precedent for use under other combat conditions.<sup>18</sup>

The deputy secretary's decision did not settle the matter for all time, of course. It remains an issue of contention among the services today. The services' doctrinal views, as illustrated in the Vietnam example, will play a part in determining how Air Force assets will be used and tasked in joint maritime operations. For the sake of doctrinal consistency, the Air Force will have to admit that there are times when Air Force units will be placed under the operational control of the naval component commander (and at other times under the air component commander) if the Air Force wins its argument on functional components. In addition, in largely naval campaigns, a naval aviator would be the air component commander.

When Air Force units lay minefields, participate in fleet air defense, attack enemy fleets in concert with Navy forces, and provide sea surveillance assets, they would be tasked by the naval component commander. For missions in which Air Force units perform these missions in isolation from the fleet, the air component commander would task the

units. At times when naval forces are not available or not used, Air Force units might be employed as a virtual uniservice force.

The authority that the JCS gives to unified commanders to organize their forces as they see fit makes it difficult to predict exactly how Air Force forces in joint maritime operations will be controlled. Professor Louis Morton, who has written extensively on command relations and on World War II in the Pacific, has stated that perhaps there will be no final word on command arrangements until the shooting starts:

All efforts to establish a single commander for the [Pacific] theater had failed, and even the unified commands set up in 1942 had been abandoned under the pressure of events. Only on the battlefield had unity of command prevailed. There were many differences between the Army and Navy, but on one thing both were agreed. The main job was to meet the enemy and defeat him with the least possible loss of life. In Washington, in Hawaii, and in Australia, Army and Navy officers, with different outlooks and points of view developed over a lifetime of training and experience, weighed the issues of war in terms of service interest and prestige. But on Guadalcanal, on Tarawa, and at Leyte, there was no debate. Where the issues were life and death, all wore the same uniform. Perhaps that is the supreme lesson of the Pacific war--that true unity of command can be achieved only on the field of battle.<sup>19</sup>

## NOTES

### CHAPTER 5

1. In addition to the unified commands, there are now three other combatant commands in the US Armed Forces. Designated as specified commands, they have combat functions that are less varied than those which might be conducted by the unified commands. Unlike the unified commands, they generally are not limited to combat operations in a certain geographic region. The specified commands are the Strategic Air Command at Offutt AFB, Nebraska, the Military Airlift Command at Scott AFB, Illinois, and the Aerospace Defense Command at Colorado Springs, Colorado. The forces for each of these commands come from a single service. Strategic Air Command and Military Airlift Command are also major commands within the single-service structure of the US Air Force. However, command authority for combat functions flows directly to them, as it does to the unified commands, from the president to the secretary of defense and through the Joint Chiefs of Staff. See appendix C for the basic structure of the unified commands.

2. US Marine Corps combat elements are under the authority of the commanders of Fleet Marine Forces, who report to the major (Atlantic and Pacific) fleet commanders in chief. USREDCOM has no naval component.

3. For example, the US Army Western Command, the US Pacific Fleet, and the Pacific Air Forces are the Army, Navy, and Air Force components of the US Pacific Command, but they are also major commands within their respective services. Authority in matters of training, administration, and logistics flows through single service lines. Authority in those

noncombatant functions flows from the president to the secretary of defense, to the secretaries of the military departments, to the service chiefs of staff, to the major commanders.

4. Memorandum, chief of staff, US Air Force, to the Joint Chiefs of Staff, subject: Proposal to Change JCS Pub 2, Unified Action Armed Forces, 19 April 1982, 1.

5. Message, Joint Chiefs of Staff, to all unified and specified commanders, subject: Command Relationships in Operational Plan Development, P042226Z Dec 81 (4 December 1981); see JCS Pub 2, Unified Action Armed Forces (UNAAF) (Washington, D.C.: Joint Chiefs of Staff, 1974), 6, 44.

6. Unified Action Armed Forces (UNAAF), 44. Although three other methods of exercising command are listed by the JCS, they are not commonly used.

7. Adm U. S. Grant Sharp, USN, and Gen William C. Westmoreland, USA, Report on the War in Vietnam (Washington, D.C.: Government Printing Office, 1968), 275-80; Gen William C. Westmoreland, A Soldier Reports (Garden City, N.Y.: Doubleday and Co., 1976), 74-77, 155.

8. Maj Gen George S. Eckhardt, USA, Vietnam Studies: Command and Control 1950-1969 (Washington, D.C.: Department of the Army, 1974), 45-46, 59.

9. Adm U. S. Grant Sharp, USN, Strategy for Defeat: Vietnam in Retrospect (San Rafael, Calif.: Presidio Press, 1978), 68.

10. Ibid.

11. AFM 1-1, Basic Aerospace Doctrine of the United States Air Force (Washington, D.C.: Department of the Air Force, 16 March 1984), 2-8, 4-2.



12. For amplification, see Briefing, Doctrine and Concepts Division, Headquarters USAF, subject: JCS Pub 2, Unified Action Armed Forces, 30 July 1982; message from President Dwight D. Eisenhower to Congress, subject: Defense Reorganization, 3 April 1958, quoted in Alice C. Cole et al, eds., The Department of Defense: Documents on Establishment and Organization 1944-1978 (Washington, D.C.: Office of the Secretary of Defense, 1978), 175-86 (hereinafter cited as Defense Documents); Gen William W. Momyer, Air Power in Three Wars (Washington, D.C.: Department of the Air Force, 1974); Bernard C. Nalty, Air Power and the Fight for Khe Sanh (Washington, D.C.: Office of Air Force History, 1973), 68-81; Westmoreland, A Soldier Reports, 342-45; Lt Gen Keith B. McCutcheon, USMC, "Marine Aviation in Vietnam, 1962-1970," US Naval Institute Proceedings, Naval Review Issue, 1971, 136-38.

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190, 197-200; Momyer, Air Power in Three Wars, 99-107; McCutcheon, "Marine Aviation in Vietnam, 1962-1970," 136-38; Unified Action Armed Forces (UNAAF), 4.

14. Westmoreland, A Soldier Reports, 342-43.

15. Ibid., 343.

16. Nalty, Air Power and the Fight for Khe Sanh, 72; McCutcheon, "Marine Aviation in Vietnam, 1962-1970," 137-38.

17. Westmoreland, A Soldier Reports, 343-45; Nalty, Air Power and the Fight for Khe Sanh, 71-80.

18. Nalty, Air Power and the Fight for Khe Sanh, 80-81.

19. Louis Morton, Pacific Command: A Study in Interservice Relations, the Third Harmon Memorial Lecture in Military History, 5 December 1960 (Colorado Springs, Colo.: US Air Force Academy, 1961), 28-29. Emphasis added.

## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS

Seven major conclusions have resulted from the research that has gone into this report. Those conclusions follow, with some recommendations for improving the use of air power in joint maritime operations.

1. Establish joint maritime doctrine; The Air Force will very likely conduct joint maritime operations for many years to come; therefore, it is imperative that the Air Force complete the work on its own maritime doctrine and then use that document as a basis for discussion with the Navy of a joint maritime operations doctrine. The need for this doctrine was made clear in chapter 1 of this report. This is perhaps the greatest of the Air Force's needs in maritime operations today. Without a doctrine, the other recommendations would do little good.

2. Determine the means of conducting maritime missions; A doctrine for maritime operations should state what missions can be performed properly and profitably by Air Force land-based air power. After that is done, the next step is to determine how, and by what types of aircraft, the missions will be conducted. The Air Force should determine how to get the capability to perform its maritime missions.

3. Get the equipment; Once the Air Force knows how the missions will be conducted, the service must then determine what kinds of munitions and other equipment should be used, and then program and budget for them. The Air Force is buying Harpoon missiles and will use Navy-supplied mines in maritime operations. Many Air Force officers

have concluded from the results of exercises that if fighters are to engage in antiship attacks, they will have to be armed with standoff precision-guided munitions.<sup>1</sup>

4. Ensure joint training and exercises: In the tactical air forces, almost all squadrons lack formal taskings for maritime operations, and training suffers as a result of that lack.<sup>2</sup> In contrast to the apparent situation in the Strategic Air Command, the tactical air forces have had little guidance from above and have little idea of what exactly needs to be done to achieve an unspecified capability in maritime operations.<sup>3</sup> In addition, Air Force units participating in joint exercises with carrier groups usually play the role of the attackers and get little training in fleet air defense. Officers from Headquarters US Air Forces in Europe (USAFE) have complained of having little Air Force input into exercise scenarios.<sup>4</sup> After the Air Force determines which maritime missions its fighters will conduct, the Air Staff and the tactical air forces will need to ensure that unit taskings are matched by training goals and that joint exercises include training in the proper roles. The tactical air forces have been drifting long enough.

5. Validate command arrangements: You may infer from the preceding chapter that some doctrinal differences are irreconcilable. Whether that is true or not, the unified commanders will make decisions on command arrangements based on the information available to them unless their component commanders present them acceptable agreements. Some agency (presumably at the Air Staff) should be made responsible for reviewing all such agreements involving Air Force commands before they

go into effect. A review of those agreements would alert the Air Staff to command arrangements that don't accord with current doctrine. When that is the case, subordinate units should also be alerted so that they are not surprised when they receive taskings from what they consider unusual sources.

When airmen are compelled to operate under command arrangements that they don't consider optimum, an agreeable attitude will go a long way toward resolving command and control problems. Lt Gen Keith B. McCutcheon, USMC, former commanding general of the 1st Marine Aircraft Wing in Vietnam, wrote of the single air manager system implemented in I Corps in 1968:

The system worked. Both the Air Force and the Marines saw to that. But the way it was made to work evolved over a period of time, and a lot of it was due to gentlemen's agreements between the on-the-scene commanders. A detailed order explaining the procedures was never published subsequent to the initial directive.<sup>5</sup>

6, Ensure working-level staff interaction; The operations, plans, and logistics staff of Air Force, Navy (including Marine Corps), and Army components below the Pentagon level do not have many dealings with each other, yet they plan for joint operations and for logistics support of those operations on a daily basis. They often make decisions on use of resources with no idea whether other forces will compete for use of the same resources. The unified command staffs should, in the interest of unity of effort, ensure that the component staffs understand (at least) the highlights of the other components' war plans, concepts of operations, and logistics concepts.

7, Provide doctrinal information. The effective use of air power in joint maritime operations requires an Air Force officer corps that knows and understands its own doctrine and the air power doctrines of the other US services. Likewise, the officer corps of the other services should be acquainted with Air Force basic doctrine because they will employ forces in joint operations. AFM 1-1, Basic Aerospace Doctrine of the United States Air Force, the Air Force's most basic statement of aerospace doctrine, is distributed at a rate of one copy for each four Air Force officers. The Army and Navy, including service schools, get 200 copies each, the Marine Corps only 25.<sup>6</sup> The stated purpose of the manual is "to impart to all Air Force personnel a basis for understanding the use of aerospace forces. . . ." <sup>7</sup> The manual will fail to reach even the officers unless the distribution is increased to allow easier access to the manual.

Air Force basic doctrine should also be put within easy reach of every Army, Navy, and Marine Corps officer, particularly the aviators. That is one of the most critical steps the Air Force can take to introduce them to Air Force employment concepts. Similarly, the Air Force should request that the other services provide several thousand copies of their most basic doctrinal publications. If they balk at providing such large numbers of documents, the Air Force could make reprints of them for internal distribution. Those doctrinal publications should be readily available to every Air Force officer on the Air Staff or on a joint, combined, major command, numbered air force, air division, or wing staff, and to every Air Force advisor.

The widespread availability of several other documents would aid a deeper understanding of the US military's missions and force structure. The National Security Act of 1947, as amended, DOD Directive 5100.1, Functions Paper, and JCS Publication 2, Unified Action Armed Forces, lay some of the groundwork for AFM 1-1 and fall into this category.

The results of the failure to provide doctrinal information to the field are sometimes grievous. For example, an assumption gaining some currency in the Air Force since the latest edition of AFM 1-1 was published in 1984 is that the Air Force has changed maritime operations into a primary mission. That misconception could be laid to rest if Air Force members could read the manual for themselves to see that, on page 3-1, the collateral functions are restated the same as they have been since 1948. However, members hear the rumor that the line of demarcation between primary and collateral functions has been erased, and they have no direct evidence to the contrary. Even an understanding that the services have no power unilaterally to assume missions on their own would help, but that kind of understanding will not come without an institutional effort to spread information on how the services got their missions.

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The Air Force now has the opportunity to finish laying a firm foundation for the effective use of air power in maritime air operations. There are many good sources of information on how to conduct that mission, beginning with the US Navy.

Many good and dedicated people in the Air Force and the Navy are working hard to enhance the effectiveness of maritime operations. Using the words of an Army strategist who wrote in a different context, "The American people deserve, demand and expect nothing less."<sup>8</sup>



## NOTES

### CHAPTER 6

1. Evidence of this appears earlier in this report.
2. Air Force Maritime Doctrine Conference Report (Washington, D.C.: Director of Plans and Director of Operations, Headquarters USAF, 29 May 1984), 3-4.
3. Ibid.
4. Ibid., 3.
5. Lt Gen Keith B. McCutcheon, USMC, "Marine Aviation in Vietnam, 1962-1970," US Naval Institute Proceedings, Naval Review Issue, 1971, 137.
6. AFM 1-1, Basic Aerospace Doctrine of the United States Air Force (Washington, D.C.: Headquarters USAF, 16 March 1984), 4-10.
7. Ibid., iii.
8. Col Harry G. Summers, Jr, USA, On Strategy: The Vietnam War in Context (Carlisle Barracks, Pa.: Strategic Studies Institute, US Army War College, April 1981), 121.

## APPENDIX A

26 March 1948

### MEMORANDUM FOR THE RECORD

Subject: Functions of the Armed Forces and the Joint Chiefs of Staff

1. This memorandum, based on notes taken during the conferences conducted by the Secretary of Defense with Joint Chiefs of Staff at Key West, Florida, on 12, 13, 14 March 1948, and at Washington, D.C., on 20 March 1948, is provided for the guidance of all concerned.

2. There was general agreement that the Functions paper should not be an operational or command document, but should serve mainly as guidance for the Planners. The conferees agreed that, in time of war, the delineation of functions would not be governed by such a document, but by the means available at the time, and by the urgency of the situation. They considered, however, that the Functions paper should be of value to the Planners in the determination of force requirements and in the preparation of budgetary estimates which are based on strategic plans.

3. It was agreed that the paper should be written within the framework of the National Security Act. The Secretary of Defense stated that he planned to recommend to the President that Executive Order No. 9877 on "Functions of the Armed Forces" be rescinded. If that recommendation is approved, the Secretary of Defense will promulgate the Functions paper to the Services with the understanding that it be changed from time to time if conditions warrant.

4. Marine Corps. In the discussions relating to the Marine Corps it was made clear that there should be no attempt to abolish the Corps, or to restrict it unduly in the discharge of its functions. There was agreement, however, that in order to prevent unnecessary duplication its size should not be such as to involve the creation of a second land army. The following language was adopted as a note to the Planners: For present planning purposes only, the ultimate number of divisions is four.

In considering Section V, A, paragraph 11d it was the understanding that the Marine Corps would not, unless authorized by the JCS, train and equip parachute and glider units, but would in general limit the training and equipping "for airborne operations" to the transportation of Marine Forces by air. It was also the understanding that the creation of Marine Field unit headquarters, higher than a Corps headquarters, was not contemplated.

5. Primary and Collateral Functions. After considerable discussion the following memorandum was drafted by the conferees, and, except for paragraph f, was agreed to on 13 March. Paragraph f was drafted after the return to Washington.

a. Primary functions will be assigned.

b. Collateral as well as primary functions will be assigned. It is recognized that assignment of collateral functions may establish further justification for stated force requirements, but such assignment shall not be used as the basis for establishing additional force requirements. (Minute directed to the attention of the Planners: In connection with the discussion of this paragraph, and in particular the language, "but such assignment shall not be used as the basis for establishing additional force requirements" the sense is as follows: That no service is precluded from advancing any and all arguments before the JCS in favor of a project which that service believes necessary, but it is understood that the foundation of the arguments cannot rest on collateral or putative assignments. It is also the sense that the decision having been arrived at by the JCS, that decision will be supported before the Budget or the Congress by all hands. It is agreed that, unless the project is approved by the JCS, collateral assignment arguments cannot be used in any other quarters.)

c. The JCS member of the service having primary responsibility for a function shall be the agent of the JCS to present to the body the requirements for and plans for the employment of all forces to carry out the function. He shall also be responsible for presenting to the JCS for final decision any disagreement within the field of his primary responsibility which has not been resolved. This shall not be construed to prevent any member of the JCS from presenting unilaterally any issue of disagreement with another Service.

d. The JCS approval of force requirements will be on the basis of over-all security requirements. It is not intended that the Service with primary responsibility will dictate force requirements to another service through the medium of its interest in the use of forces used on a collateral basis. (Minute directed to attention of the Planners: With particular reference to paragraphs B and C of this paper, it is not intended that the service with primary responsibility shall undertake to use its interpretation of collateral functions of another service to deny weapons and equipment to that Service.)

e. The Navy will conduct air operations as necessary for the accomplishment of objectives in a naval campaign. They will be prepared to participate in the over-all air effort as directed by the Joint Chiefs of Staff. (Minute directed to the attention of the Planners: This paragraph will not be interpreted to prohibit the Navy from attacking any targets inland or otherwise, necessary for the accomplishment of its mission.)

f. Having due regard for the responsibilities and procedures of the Research and Development Board as set forth in the Chapter of the Board, nothing in the foregoing shall, in itself, be construed as placing arbitrary restrictions on those material development programs and projects of an individual Service which are considered essential by

that Service, in order properly to discharge the responsibility assigned in Section II, part B, paragraph 5, of "FUNCTIONS OF THE ARMED FORCES AND THE JOINT CHIEFS OF STAFF." It is intended that an individual Service is to be permitted to carry through the development stage any material improvement program or new weapons development program considered by that Service to be essential in the interest of increased effectiveness of its weapons, material, or equipment. The ultimate application and utilization of the product of such a development program shall, of course, be subject to the examination and recommendation of the Joint Chiefs of Staff on the basis of its contribution to the overall war effort. (Note: This paragraph has not yet been considered by the JCS or by the Secretary of Defense.)

g. The Navy's requirements for equipment and forces to accomplish its mission will not be the basis for the development of a strategic air force.

6. Strategic Air Warfare. Although strategic air warfare was assigned to the Air Force as a primary function, it was agreed that the Navy should not be denied the air necessary to accomplish its mission. The Chief of Naval Operations stated at the outset, that the Navy has no intention of developing a separate strategic air force. The Chief of Staff of the Air Force stated that the Air Force had no desire to deprive the Navy of its carriers.

In considering the statement "To be prepared to participate in the overall air effort as directed by the Joint Chiefs of Staff," which appears in Section V B 4, it was stressed that the capabilities of naval aviation should be utilized to the maximum, including a specific provision that the Navy would not be prohibited from attacking targets, inland or otherwise, to accomplish its mission. The Chief of Staff of the Air Force stated that he visualized situations where it might be advisable to have naval aircraft operate from land bases.

One illustration that was brought out in connection with requirements for the execution of collateral functions was the construction of a large carrier. In discussing this example it was assumed that the Navy might not be able to establish a requirement for the carrier solely on the basis of its naval function. A consideration of its purely naval function, plus the contribution which it could make to strategic air warfare, might be enough to warrant its construction.

The Chief of Staff of the Air Force, pursuant to the provisions of paragraph 5c, above, would be responsible for presenting to the JCS that portion of the requirement pertaining to its strategic air warfare function. If in the presentation a disagreement arose it would be the JCS who would make the decision. If they could not agree the Secretary of Defense would decide.

7. [Omitted]

ALFRED H. GRUENTHER,  
Major General, U.S. Army,  
Director, The Joint Staff

## APPENDIX B

January 26, 1980  
NUMBER 5100.1

### DEPARTMENT OF DEFENSE DIRECTIVE

SUBJECT: Functions of the Department of Defense and its Major Components

References: (a) DoD Directive 5100.1, subject as above, December 31, 1958 (hereby cancelled)  
(b) Title 50, United States Code, Section 401, Section 2 of the National Security Act of 1947, as amended  
(c) DoD Directive 5158.1, "Organization of the Joint Chiefs of Staff and Relationships with the Office of the Secretary of Defense," January 26, 1980  
(d) Title 10, United States Code, Section 125 (National Security Act of 1947, as amended)

#### A. REISSUANCE AND PURPOSE

1. This Directive reissues reference (a).
2. Under the authority of reference (b), Congress described the basic policy embodied in the Act as follows:

"In enacting this legislation, it is the intent of Congress to provide a comprehensive program for the future security of the United States; to provide for the establishment of integrated policies and procedures for the departments, agencies, and functions of the Government relating to the national security; to provide a Department of Defense, including the three military departments of the Army, the Navy (including naval aviation and the United States Marine Corps), and the Air Force under the direction, authority, and control of the Secretary of Defense; to provide that each military department shall be separately organized under its own Secretary and shall function under the direction, authority, and control of the Secretary of Defense; to provide for their unified direction under civilian control of the Secretary of Defense but not to merge these departments or services; to provide for the establishment of unified or specified combatant commands, and a clear and direct line of command to such commands; to eliminate unnecessary duplication in the Department of Defense, and particularly in the field of research and engineering by vesting its overall direction and control in the Secretary of Defense; to provide more effective, efficient, and economical administration in the Department of Defense; to provide for the unified strategic direction of the combatant forces, for

their operation under unified command, and for their integration into an efficient team of land, naval, and air forces but not to establish a single Chief of Staff over the armed forces nor an overall armed forces general staff."

3. To provide guidance in accordance with the policy declared by Congress, the Secretary of Defense, with the approval of the President, hereby promulgates the following statement of the functions of the Department of Defense and its major components.

#### B. ORGANIZATIONAL RELATIONSHIPS IN THE DEPARTMENT OF DEFENSE

1. All functions in the Department of Defense and its component agencies are performed under the direction, authority, and control of the Secretary of Defense.

2. The Department of Defense includes the Office of the Secretary of Defense, the Military Departments and the Military Services within those Departments, the Organization of the Joint Chiefs of Staff, the Unified and Specified Commands, and such other agencies as the Secretary of Defense establishes to meet specific requirements.

a. In providing immediate staff assistance and advice to the Secretary of Defense, the Office of the Secretary of Defense and the Organization of the Joint Chiefs of Staff, though separately identified and organized, function in full coordination and cooperation in accordance with DoD Directive 5158.1 (reference (c)).

(1) The Office of the Secretary of Defense includes the offices of the Under Secretaries of Defense; Assistant Secretaries of Defense; the General Counsel of the Department of Defense; the Assistants to the Secretary of Defense; and such other staff offices as the Secretary of Defense establishes to assist him in carrying out his duties and responsibilities. The functions of the heads of these offices shall be as assigned by the Secretary of Defense in accordance with existing laws.

(2) The Joint Chiefs of Staff, as a group, are directly responsible to the Secretary of Defense for the functions assigned to them. Each member of the Joint Chiefs of Staff, other than the Chairman, is responsible for keeping the Secretary of his Military Department fully informed on matters considered or acted upon by the Joint Chiefs of Staff.

b. Each Military Department (the Department of the Navy to include naval aviation and the United States Marine Corps) shall be separately organized under its own Secretary and shall function under the direction, authority, and control of the Secretary of Defense. The Secretary of a Military Department shall be responsible to the Secretary of Defense for the operation of such Department as well as its

efficiency. Orders to the Military Departments shall be issued through the Secretaries of these Departments, or their designees, by the Secretary of Defense or under authority specifically delegated in writing by the Secretary of Defense or provided by law.

c. Commanders of Unified and Specified Commands are responsible to the President and the Secretary of Defense for the accomplishment of the military missions assigned to them. The chain of command runs from the President to the Secretary of Defense and through the Joint Chiefs of Staff to the commanders of the Unified and Specified Commands. Orders to such commanders shall be issued by the President or the Secretary of Defense, or by the Joint Chiefs of Staff by the authority and direction of the Secretary of Defense. These commanders shall have full operational command over the forces assigned to them and shall perform such functions as are prescribed by the Unified Command Plan and other directives issued by competent authority.

3. The functions assigned hereafter may be transferred, reassigned, abolished, or consolidated by the Secretary of Defense in accordance with the procedures established and the authorities provided in the National Security Act of 1947, as amended (10 U.S.C. 125) (reference (d)).

#### C. FUNCTIONS OF THE DEPARTMENT OF DEFENSE

As prescribed by higher authority, the Department of Defense shall maintain and employ armed forces to:

1. Support and defend the Constitution of the United States against all enemies, foreign and domestic.

2. Ensure, by timely and effective military action, the security of the United States, its possessions, and areas vital to its interest.

3. Uphold and advance the national policies and interests of the United States.

4. Safeguard the internal security of the United States.

#### D. FUNCTIONS OF THE JOINT CHIEFS OF STAFF

The Joint Chiefs of Staff, consisting of the Chairman; the Chief of Staff, U.S. Army; the Chief of Naval Operations; the Chief of Staff, U.S. Air Force; and the Commandant of the Marine Corps, and supported by the Organization of the Joint Chiefs of Staff, constitute the immediate military staff of the Secretary of Defense. The Joint Chiefs of Staff are the principal military advisers to the President, the National Security Council, and the Secretary of Defense. In performance of their functions of advising and assisting the Secretary of Defense, and subject to the authority and direction of the President and the

Secretary of Defense, it shall be the duty of the Joint Chiefs of Staff to:

1. Serve as advisers and as military staff in the chain of operational command with respect to Unified and Specified Commands, to provide a channel of communications from the President and Secretary of Defense to Unified and Specified Commands, and to coordinate all communications in matters of joint interest addressed to the commanders of the Unified or Specified commands by other authority.
2. Prepare strategic plans and provide for the strategic direction of the armed forces, including the direction of operations conducted by commanders of Unified and Specified Commands and the discharge of any other function of command for such commands directed by the Secretary of Defense.
3. Prepare joint logistic plans and assign logistic responsibilities to the Military Services and the Defense Logistics Agency in accordance with those plans; ascertain the logistic support available to execute the general war and contingency plans of the commanders of the Unified and Specified Commands; review and recommend to the Secretary of Defense appropriate logistic guidance for the Military Services which, if implemented, shall result in logistic readiness consistent with the approved strategic plans.
4. Prepare integrated plans for military mobilization.
5. Provide adequate, timely, and reliable joint intelligence for use within the Department of Defense.
6. Review major personnel, materiel, and logistic requirements of the armed forces in relation to strategic and logistic plans.
7. Review the plans and programs of commanders of Unified and Specified Commands to determine their adequacy, feasibility, and suitability for the performance of assigned missions.
8. Provide military guidance for use by the Military Departments, the armed forces, and the defense agencies in the preparation of their respective detailed plans.
9. Participate, as directed, in the preparation of combined plans for military action in conjunction with the armed forces of other nations.
10. Recommend to the Secretary of Defense the establishment and force structure of Unified and Specified Commands in strategic areas.



11. Determine the headquarters support, such as facilities, personnel, and communications, required by commanders of Unified and Specified Commands, and recommend the assignment to the Military Departments of the responsibilities for providing such support.

12. Establish doctrines for unified operations and training, and for coordination of the military education of members of the armed forces.

13. Recommend to the Secretary of Defense the assignment of primary responsibility for any function of the armed forces requiring such determination and the transfer, reassignment, abolition, or consolidation of such functions.

14. Prepare and submit to the Secretary of Defense, for information and consideration in connection with the preparation of budgets, statements of military requirements based upon U.S. strategic considerations, current national security policy, and strategic war plans. These statements of requirements shall include tasks, priority of tasks, force requirements, and general strategic guidance for developing military installations and bases and for equipping and maintaining military forces.

15. Advise and assist the Secretary of Defense in research and engineering matters by preparing: statements of broad strategic guidance to be used in the preparation of an integrated DoD program; statements of overall military requirements; statements of the relative military importance of development activities to meet the needs of the Unified and Specified commanders; and recommendations for the assignment of specific new weapons to the armed forces.

16. Prepare and submit to the Secretary of Defense for information and consideration general strategic guidance for the development of industrial mobilization programs.

17. Prepare and submit to the Secretary of Defense military guidance for use in the development of military aid programs and other actions relating to foreign military forces, including recommendations for allied military force, materiel, and facilities requirements related to U.S. strategic objectives, current national security policy, strategic war plans, and the implementation of approved programs; and make recommendations to the Secretary of Defense, as necessary, to keep the Military Assistance Program in consonance with agreed strategic concepts.

18. Provide U.S. representation on the Military Staff Committee of the United States Mission to the United Nations, in accordance with the provisions of the Charter of the United Nations, and representation on other properly authorized military staffs, boards, councils, and missions.

19. Perform such other duties as the President or the Secretary of Defense may prescribe.

E. FUNCTIONS OF THE MILITARY DEPARTMENTS AND THE MILITARY SERVICES

1. The chain of command for purposes other than the operational direction of Unified and Specified Commands runs from the President to the Secretary of Defense to the Secretaries of the Military Departments.

2. The Military Departments, under their respective Secretaries and in accordance with sections B and D, shall:

a. Prepare forces and establish reserves of equipment and supplies for the effective prosecution of war, and plan for the expansion of peacetime components to meet the needs of war.

b. Maintain mobile reserve forces in readiness, properly organized, trained, and equipped for employment in an emergency.

c. Provide adequate, timely, and reliable departmental intelligence for use within the Department of Defense.

d. Organize, train, and equip forces for assignment to Unified or Specified Commands.

e. Recommend appropriate logistic guidance to the Secretary of Defense for their respective Military Departments that, if implemented, will result in logistic readiness consistent with approved strategic guidance; and verify the continuing adequacy of approved logistic guidance and the resources available to their respective Military Departments.

f. Prepare and submit budgets to the Secretary of Defense for their respective Departments; justify budget requests before the Congress as approved by the Secretary of Defense; and administer the funds made available for maintaining, equipping, and training the forces of their respective Departments, including those assigned to Unified and Specified Commands. The budget submissions to the Secretary of Defense by the Military Departments shall be prepared, among other considerations, on the basis of the advice of commanders of forces assigned to Unified and Specified Commands. Such advice, in the case of component commanders of Unified Commands, will be in agreement with the plans and programs of the respective Unified commanders.

g. Conduct research; develop tactics, techniques, and organization; and develop and procure weapons, equipment, and supplies essential to fulfill the functions hereafter assigned.

h. Develop, garrison, supply, equip, and maintain bases and other installations, including lines of communication, and provide administrative and logistic support for all forces and bases.

i. Provide, as directed, such forces, military missions, and detachments for service in foreign countries as may be required to support the national interest of the United States.

j. Assist in training and equipping the military forces of foreign nations.

k. Assist each other in the accomplishment of their respective functions, including the provision of personnel, intelligence, training, facilities, equipment, supplies, and services.

3. The forces developed and trained to perform the primary functions set forth hereafter shall be employed to support and supplement the other Military Services in carrying out their primary functions, where and whenever such participation shall result in increased effectiveness and shall contribute to the accomplishment of the overall military objectives. As for collateral functions, while the assignment of such functions may establish further justification for stated force requirements, such assignment shall not be used as the basis for establishing additional force requirements.

a. Functions of the Department of the Army

(1) The Department of the Army is responsible for the preparation of land forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated mobilization plans, for the expansion of the peacetime components of the Army to meet the needs of war.

(2) The Army, within the Department of the Army, includes land combat and service forces and such aviation and water transport as may be organic therein.

(3) The primary functions of the Army are to:

(a) Organize, train, and equip Army forces for the conduct of prompt and sustained combat operations on land; specifically, forces to defeat enemy land forces and to seize, occupy, and defend land area.

(b) Organize, train, and equip Army air defense units, including the provision of Army forces as required for the defense of the United States against air attack, in accordance with doctrines established by the Joint Chiefs of Staff.

(c) Organize, equip, and provide Army forces in coordination with the other Services, for joint amphibious and airborne operations, and to provide for the training of such forces. in accordance with doctrines established by the Joint Chiefs of Staff.

1. Develop, in coordination with the other Services, doctrines, tactics, techniques, and equipment of interest to the Army for amphibious operations not provided for in E.3.b.(3)(b)3 and E.3.b.(3) (d).

2. Develop, in coordination with the other Military Services, the doctrines, procedures, and equipment employed by Army and Marine Forces in airborne operations. The Army shall have primary interest in the development of those airborne doctrines, procedures, and equipment that are of common interest to the Army and the Marine Corps.

(d) Provide an organization capable of furnishing adequate, timely, and reliable intelligence for the Army.

(e) Provide forces for the occupations of territories abroad, to include the initial establishment of military government pending the transfer of this responsibility to other authority.

(f) Formulate doctrines and procedures for the organizing, equipping, training, and employment of forces operating on land, except that the formulation of doctrines and procedures for the organization, equipping, training, and employment of Marine Corps' units for amphibious operations shall be a function of the Department of the Navy, coordinating as required by E.3.b.(3)(b)3.

(g) Conduct the following activities:

1. Functions relating to the management and operation of the Panama Canal as assigned by the Secretary or Deputy Secretary of Defense.

2. The authorized civil works program, including projects for improvement of navigation, flood control, beach erosion control, and other water resource developments in the United States, its territories, and its possessions.

3. Certain other civil activities prescribed by law.

(4) The collateral functions of the Army are to train forces to interdict enemy sea and air power and communications through operations on or from land.

b. Functions of the Department of the Navy

(1) The Department of the Navy is responsible for the preparation of Navy and Marine Corps forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated mobilization plans, for the expansion of the peacetime components of the Navy and Marine Corps to meet the needs of war.

(2) Within the Department of the Navy, the Navy includes naval combat and service forces and such aviation as may be organic therein, and the Marine Corps includes not less than three combat divisions and three air wings and such other land combat, aviation, and other services as may be organic therein.

(3) The primary functions of the Navy and the Marine Corps are to:

(a) Organize, train, and equip Navy and Marine Corps forces for the conduct of prompt and sustained combat operations at sea, including operations of sea-based aircraft and land-based naval air components, specifically, forces to seek out and destroy enemy naval forces and to suppress enemy sea commerce, to gain and maintain general naval supremacy, to control vital sea areas, to protect vital sea lines of communication, to establish and maintain local superiority (including air) in an area of naval operations, to seize and defend advanced naval bases, and to conduct such land and air operations as may be essential to the prosecution of a naval campaign.

(b) Maintain the Marine Corps, whose specific functions are to:

1. Provide Fleet Marine forces of combined arms, together with supporting air components, for service with the Fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign. These functions do not contemplate the creation of a second land Army.

2. Provide detachments and organizations for service on armed vessels of the Navy, and security detachments for the protection of naval property at naval stations and bases.

3. Develop, in coordination with the other Military Services, the doctrines, tactics, techniques, and equipment employed by landing forces in amphibious operations. The Marine Corps shall have primary interest in the development of those landing force doctrines, tactics, techniques, and equipment that are of common interest to the Army and the Marine Corps.

4. Train and equip, as required, Marine Forces for airborne operations in coordination with the other Military Services and in accordance with doctrines established by the Joint Chiefs of Staff.

5. Develop, in coordination with the other Military Services, doctrines, procedures, and equipment of interest to the Marine Corps for airborne operations not provided in E.3.a.(3)(c)2.

(c) Organize and equip, in coordination with the other Military Services, and provide naval forces, including naval close air-support forces, for the conduct of joint amphibious operations, and be responsible for the amphibious training of all forces assigned to joint amphibious operations, in accordance with doctrines established by the Joint Chiefs of Staff.

(d) Develop, in coordination with the other Military Services, the doctrines, procedures, and equipment of naval forces for amphibious operations, and the doctrines and procedures for joint amphibious operations.

(e) Furnish adequate, timely, and reliable intelligence for the Navy and Marine Corps.

(f) Organize, train, and equip naval forces for naval reconnaissance, antisubmarine warfare, and the protection of shipping and minelaying, including the air aspects thereof, and controlled minefield operations.

(g) Provide air support essential for naval operations.

(h) Provide sea-based air defense and the sea-based means for coordinating control for defense against air attack, coordinating with the other Military Services in matters of joint concern.

(i) Provide naval forces, including naval air forces, for the defense of the United States against air attack, in accordance with doctrines established by the Joint Chiefs of Staff.

(j) Furnish aerial photography, as necessary, for Navy and Marine Corps operations.

(4) The collateral functions of the Navy and the Marine Corps are to train forces to:

(a) Interdict enemy land and air power and communications through operations at sea.

(b) Conduct close air and naval support for land operations.

(c) Furnish aerial photography for cartographic purposes.

(d) Participate in the overall air effort, when directed.

(e) Establish military government, as directed, pending transfer of this responsibility to other authority.

#### c. Functions of the Department of the Air Force

(1) The Department of the Air Force is responsible for the preparation of the air forces necessary for the effective prosecution of war, except as otherwise assigned, and, in accordance with integrated mobilization plans, for the expansion of the peacetime components of the Air Force to meet the needs of war.

(2) The Air Force, within the Department of the Air Force, includes aviation forces, both combat and service, not otherwise assigned.

(3) The primary functions of the Air Force are to:

(a) Organize, train, and equip Air Force forces for the conduct of prompt and sustained combat operations in the air, specifically, forces to defend the United States against air attack

in accordance with doctrines established by the Joint Chiefs of Staff, to gain and maintain general air supremacy, to defeat enemy air forces, to control vital air areas, and to establish local air superiority, except as otherwise assigned herein.

(b) Develop doctrines and procedures, in coordination with the other Military Services, for the unified defense of the United States against air attack.

(c) Organize, train, and equip Air Force forces for strategic air warfare.

(d) Organize and equip Air Force forces for joint amphibious and airborne operations, in coordination with the other Military Services, and provide for their training in accordance with doctrines established by the Joint Chiefs of Staff.

(e) Furnish close combat and logistical air support to the Army, to include air lift, support, and resupply of airborne operations, aerial photography, tactical reconnaissance, and interdiction of enemy land power and communications.

(f) Provide air transport for the armed forces, except as otherwise assigned.

(g) Develop, in coordination with the other Military Services, doctrines, procedures, and equipment for air defense from land areas, including the continental United States.

(h) Formulate doctrines and procedures for the organizing, equipping, training, and employment of Air Force forces.

(i) Provide an organization capable of furnishing adequate, timely, and reliable intelligence for the Air Force.

(j) Furnish aerial photography for cartographic purposes.

(k) Develop, in coordination with the other Military Services, tactics, techniques, and equipment of interest to the Air Force for amphibious operations not provided in E.3.b.(3)(b)3 and E.3.b.(3)(d).

(l) Develop, in coordination with the other Military Services, doctrines, procedures, and equipment employed by Air Force forces in airborne operations.

(4) The collateral functions of the Air Force are to train forces to:

(a) Interdict enemy sea power through air operations.

(b) Conduct antisubmarine warfare and protect shipping.

(c) Conduct aerial minelaying operations.

F. FUNCTIONS OF DOD AGENCIES

1. Defense Advanced Research Projects Agency (DARPA). See DOD Directive 5105.41, June 8, 1978.

2. Defense Audit Service (DAS). See DOD Directive 5105.48, October 14, 1976.

3. Defense Audiovisual Agency (DAVA). See DOD Directive 5040.1, June 12, 1979.

4. Defense Communications Agency (DCA). See DOD Directive 5105.19, August 10, 1978.

5. Defense Contract Audit Agency (DCAA). See DOD Directive 5105.36, June 8, 1978.

6. Defense Intelligence Agency (DIA). See DOD Directive 5105.21, May 19, 1977.

7. Defense Investigative Service (DIS). See DOD Directive 5105.42, July 19, 1978.

8. Defense Logistics Agency (DLA). See DOD Directive 5105.22, June 8, 1978.

9. Defense Mapping Agency (DMA). See DOD Directive 5105.40, August 10, 1978.

10. Defense Nuclear Agency (DNA). See DOD Directive 5105.31, November 3, 1971.

11. Defense Security Assistance Agency (DSAA). See DOD Directive 5105.38, August 10, 1978.

12. The National Security Agency and the Central Security Service. See Directive S-5100.20, December 23, 1971.

G. EFFECTIVE DATE

This Directive is effective immediately.

/s/ W. Graham Claytor, Jr.  
W. Graham Claytor, Jr.  
Deputy Secretary of Defense



APPENDIX C  
UNITED STATES UNIFIED COMMANDS  
as of 1 October 1983

US European Command (USEUCOM), Stuttgart-Vaihingen, Germany

Components: Army: US Army Europe (USAREUR), Heidelberg, Germany

Navy: US Naval Forces Europe (USNAVEUR), London,  
England

Air Force: US Air Forces in Europe (USAFE), Ramstein  
AB, Germany

Remarks: Commander in Chief, US European Command (USCINCEUR) is also Supreme Allied Commander Europe (SACEUR) within the North Atlantic Treaty Organization (NATO) structure.

US Atlantic Command (USLANTCOM), Norfolk, Virginia

Components: Army: US Army Forces Command (FORSCOM--ARLANT),  
Fort McPherson, Georgia

Navy: US Atlantic Fleet (LANTFLT), Norfolk, Virginia

Air Force: Tactical Air Command (TAC--AFLANT),  
Langley AFB, Virginia

Subordinate Unified Commands:

US Forces Azores (USFORAZ)

US Forces Caribbean (USFORCARIB)

Icelandic Defense Forces (ICEDEFFOR)

Remarks: Commander in Chief, US Atlantic Command (USCINCLANT) is also Commander in Chief, US Atlantic Fleet (CINCLANTFLT), and therefore commander of the naval component of the US Atlantic Command. He is also Supreme Allied Commander Atlantic (SACLANT) within the NATO structure. The subordinate unified commands are joint-service commands that are responsible to the unified commander, in this case USCINCLANT.

US Pacific Command (USPACOM), Camp H. M. Smith, Hawaii

Components: Army: US Army Western Command (WESTCOM), Fort Shafter, Hawaii

Navy: US Pacific Fleet (PACFLT), Pearl Harbor, Hawaii

Air Force: Pacific Air Forces (PACAF), Hickam AFB, Hawaii

Subordinate Unified Commands:

US Forces Korea (USFK), Seoul, Korea

US Forces Japan (USFJ), Yokota AB, Japan

Remarks: WESTCOM does not include the Eighth US Army in Korea (headquartered in Seoul) or US Army Japan (headquartered at Camp Zama). Those Army forces are components of the subordinate unified commands, USFK and USFJ.

US Central Command (USCENTCOM), MacDill AFB, Florida

Components: Army: US Army Forces Central Command (ARCENT - Third US Army), Fort McPherson, Georgia

Navy: US Naval Forces Central Command (USNAVCENT), Pearl Harbor, Hawaii

Air Force: US Air Forces Central Command (AFCENT--Ninth Air Force), Shaw AFB, South Carolina

US Southern Command (USSOUTHCOM), Quarry Heights, Panama

Components: Army: 193d Infantry Brigade (ARSO), Fort Clayton, Panama

Navy: US Naval Forces Southern Command (NAVSOC), Fort Amador, Panama

Air Force: Southern Air Division (AFSO), Howard AB, Panama

US Readiness Command (USREDCOM), MacDill AFB, Florida

Components: Army: US Army Forces Readiness Command (FORSCOM--USARRED), Fort McPherson, Georgia

Navy: None

Air Force: US Air Forces Readiness Command (TAC--USAFRED), Langley AFB, Virginia

## APPENDIX D

9 September 1982

Department of the Navy  
Office of the Chief of  
Naval Operations  
Washington, D.C.

Department of the Air Force  
Headquarters, U.S. Air Force  
Washington, D.C.

### MEMORANDUM OF AGREEMENT ON JOINT USN/USAF EFFORTS TO ENHANCE USAF CONTRIBUTION TO MARITIME OPERATIONS

#### REFERENCE:

- (a) JCS Pub 2, Unified Action Armed Forces (UNAAF)
- (b) Defense Guidance FY 1984-1988
- (c) Memorandum of Agreement between Chief of Naval Operations and Chief of Staff, USAF, dated 19 Nov 1971
- (d) Memorandum of Agreement between Chief of Naval Operations and Chief of Staff, USAF, dated 22 May 1974
- (e) Memorandum of Agreement between Chief of Naval Operations and Chief of Staff, USAF, dated 2 Sep 1975
- (f) Memorandum of Agreement between Chief of Naval Operations and Chief of Staff, USAF, dated 11 Dec 1979

#### PURPOSE

1. To accelerate ongoing USN/USAF joint efforts to enhance the effectiveness of maritime operations and, in particular, defense of the sea lines of communications (SLOCs) by utilizing USAF capabilities.

#### BACKGROUND

2. Reference (a) states that the military commander and the Services have the responsibility to plan for utilization and exploitation of intrinsic capabilities of available forces of all Services. By reference (b), the Secretary of Defense highlighted the need for inter-service cooperation and initiatives for enhanced and increased employment of USAF capabilities in support of SLOC defense. The Secretary of the Navy and Secretary of the Air Force agreed to work closely towards these goals and to direct their Service Chiefs to take appropriate action to achieve improved force integration.

#### DISCUSSION

3. As reflected by the Defense Guidance, requisite maritime strength to keep all SLOCs open is an indispensable component of the U.S. military

posture. The broadening threat to this essential capability is clearly recognized, and sustained efforts are underway to regain maritime superiority. The combined assets of the Navy and the Marine Corps are insufficient to meet the threat in all areas. To obtain the best deterrent value and fighting capability in wartime, a continued effort is needed to prepare for the optimal interaction of Service forces. The Navy and Air Force should, therefore, accelerate their joint efforts to exploit their capabilities to enhance maritime operations in defense of the SLOCs.

4. Since the promulgation of reference (d), numerous joint exercises and joint training operations have been conducted. Evaluation of these operations and assessment of the current threat indicated the Anti-Air Warfare (AAW)/Counter-Air Operations is the mission area in which Air Force capabilities can provide the most immediate gains to maritime operations. The Air Force will also improve its anti-ship capability in support of the Antisurface Ship Warfare (ASUW) mission. The primary element will be a training program to include realistic joint training and exercise activity to insure that any capability established is viable within the current operational framework.

5. There are other maritime mission areas in which Air Force capabilities may provide valuable enhancements to SLOC defense. These include:

- a. Indications and Warning (I&W).
- b. Surveillance and Targeting.
- c. Command, Control and Communications (C<sup>3</sup>).
- d. Aerial Minelaying.
- f. Delivery of Navy Special Warfare Forces.
- g. Aerial Refueling.

#### OBJECTIVES

6. The principal goal of the U.S. Navy and U.S. Air Force in this joint effort is to enhance the total force capability to conduct maritime operations and, in particular, defense of the SLOCs. In support of this goal, the Navy and the Air Force agree to increase the scope and frequency of joint maritime training and to take necessary planning and programming action to accelerate achievement of the following basic objectives:

a. Improved unit and operator effectiveness in joint maritime operations.

b. Enhanced inter-operability of platforms and systems.

c. Continued joint development of tactical doctrine and maritime operations.

d. Assessment of joint training capabilities and limitations and identification of joint training requirements.

e. Provision of joint USN/USAF maritime warfighting concepts for evaluation of by the JCS and the CINCs and for consideration in the JCS allocation of forces.

7. Action. In support of these objectives the Navy and the Air Force will take the following actions:

a. Improve inter-service training and exercising through such measures as:

(1) Additional cross training for appropriate inter-service combat unit crewmembers.

(2) Increased inter-service participation in scheduled exercises on instrumented training ranges.

(3) Increased inter-service use of tactical schools and trainers.

(4) Increased integration of forces in tactical training exercises, including JCS-sponsored exercises.

b. Increase inter-service technical exchange including efforts to identify mutually enhancing capabilities and joint development and procurement opportunities to improve the effectiveness of both services.

c. Develop improved tactics and tactical doctrine through experience in joint exercise.

d. Develop joint requirements for inter-service training and exercises, including joint initiatives for new or improved tactical ranges and schools.

e. Seek expanded JCS sponsorship of exercises which provide opportunities for joint USN/USAF operations at sea.

f. Introduce joint maritime warfighting concepts as they are developed, for evaluation by the JCS and the CINCs, and for the JCS force allocation, as appropriate.

g. Coordinate force planning and programming to support mutual reinforcement in maritime operations.

8. Effective Date. This agreement is effective immediately and shall remain in effect until amended by mutual agreement between the Navy and the Air Force. This agreement supplements references (c-f).

/s/ James D. Watkins  
Chief of Naval Operations

/s/ Charles A. Gabriel  
Chief of Staff, U.S. Air Force

APPENDIX E

25 October 1982

Department of the Navy  
Washington, D.C.

Department of the Air Force  
Washington, D.C.

MEMORANDUM OF AGREEMENT  
ON  
JOINT USN/USAF EFFORTS FOR  
ENHANCEMENT OF JOINT COOPERATION

Based on joint operating experience and current threat assessments, the Department of the Navy and the Department of the Air Force concur that the opportunity, the level of joint interest, and in fact the military requirement exist now to commence a much-accelerated program of inter-service cooperation in tactical training and exercising. The goal of this accelerated effort is to provide operational commanders the most flexible, capable and mutually enhancing mix of forces possible for joint operations against enemy forces.

Each Department will therefore increase immediately their joint efforts to enhance their combined effectiveness in maritime operations and operations ashore. These efforts will, in particular, be directed at increases in joint training and interoperability, with the following specific initiatives agreed to as of this date:

- Increase integration of Naval and Air Force forces in tactical training exercises, including JCS-sponsored exercises.
- Increase cooperation in interoperable command, control and communications equipment and procedures.
- Increase inter-service use of existing and programmed tactical training schools.
- Increase inter-service exchange duty for appropriate combat unit crewmembers.
- Increase cooperation in improving tactical weapons effectiveness.
- Increase inter-service use of existing tactical weapons ranges and facilities for training and exercising.
- Joint efforts to develop, operate and use a multi-service War-at-Sea range located in the vicinity of South Florida.

To implement the actions and overall intent of this agreement, the Service Chiefs will coordinate operational planning and make recommendations to enhance combined capabilities, within each of the Military Departments and within the framework of the Joint Chiefs of Staff.

/s/ John Lehman  
SECRETARY OF THE NAVY

/s/ Verne Orr  
SECRETARY OF THE AIR FORCE

/s/ James D. Watkins  
CHIEF OF NAVAL OPERATIONS

/s/ Charles A. Gabriel  
CHIEF OF STAFF, U.S. AIR FORCE